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ABSTRACT

The collection of three documents offers a two-page summary of research conducted in 1970 and the two resulting papers. Most of the work involved the preparation and analysis of data from the Survey of Economic Opportunity. The first paper, Why is the Unemployment Rate So High at Full Employment? examines the nature of the unemployment that remains even when aggregate demand is strong. A basic theme is that the Keynesian dichotomy between frictional and involuntary unemployment is not a very useful way to look at the problem of unemployment at full employment. The main part of the paper is devoted to an empirical study of data on workers who were unemployed at some time in 1966. The implication of various alternative hypotheses about unemployment are tested. Other research results together with subsequent research are reported in the second paper, Prospects for Shifting the Phillips Curve through Manpower Policy. The paper examines a variety of alternative manpower policies and attempts to make a quantitative appraisal of their effects on the trade off between inflation and unemployment. The paper surveys criticaly existing and proposal federal programs of all three kinds and concludes that only a relatively small shift in the Phillips Curve could be achieved through programs that are politically feasible. (Author)

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Exploratory Empirical Research on the Pathology of Secondary Labor Markets

Final Report on Research Supported by the Manpower Administration, U.S. Department of Labor

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Summary of Activities, Research Findings, Implications, Conclusions, and Recommendations

Research under this grant was carried out in the summer of 1970 at the University of California. Most of the work involved the preparation and analysis of data from the Survey of Economic Opportunity, along the lines described in the original proposal. The results of the research were reported in a paper written at that time, "Why is the Unemployment Rate So High at Full Employment?", a copy of which is attached. In brief, the paper examines the nature of the unemployment that remains even when aggregate demand is strong. A basic theme is that the Keynesian dichotomy between frictional and involuntary unemployment is not a very useful way to look at the problem of unemployment at full employment. At full employment, the duration of unemployment is relatively brief for almost all of the unemployed, yet the remaining level of unemployment is far too high to be identified as benign frictional unemployment. The main part of the paper is devoted to an empirical study of data on workers who were unemployed at some time in 1966. The implication of various alternative hypotheses about unemployment are tested.

Other results of the research supported by the grant,

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together with subsequent research, were reported in a second paper, "Prospects for Shifting the Phillips Curve through Manpower Policy", a copy of which is also attached. This paper examines a variety of alternative manpower policies, and attempts to make a quantative appraisal of their effects on the tradeoff between inflation and unemployment. One set of policies is designed to streamline the operation of the labor market within the existing pattern of supply and demand through expansion of the Employment Service. A second set attempts to change the pattern of the supply of labor by retraining disadvantaged workers. Finally, the third kind of policy tries to change the pattern of the demand for labor by opening up good jobs for workers who previously have had unstable, low-paying, and unpleasant jobs. The paper surveys critically existing and proposed federal programs of all three kinds and concludes thatonly a relatively small shift in the Phillips curve could be achieved through programs that are politically feasible.

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Why Is the Unemployment Rate So High at Full Employment?

THE OUTSTANDING PROBLEM of contemporary macroeconomic policy in the United States is the unfavorable trade-off that exists between unemployment and inflation. Many economists have studied this phenomenon in detail,[1] and there is practically universal agreement that low unemployment rates imply high rates of wage and price inflation, or, equivalently, wage and price stability requires a high rate of unemployment. In short, the Phillips curve has an unfavorable location in the unemployment-inflation diagram, passing far above and to the right of the point of low unemployment and wage stability. There are many interesting ways to examine this problem; my purpose in this paper is to study it only in the way suggested by the title. That is, I will look into the nature of the unemployment that remains when labor markets are reasonably tight and the economy seems to be at full employment. Most of my data are observations on individuals, collected in a variety of surveys, rather than macroeconomic aggregates.

* This paper draws on research supported by a grant from the Manpower Administration, U.S. Department of Labor, under provisions of the Manpower Development and Training Act of 1962. Earlier work was supported by the Office of Economic Opportunity. The author is solely responsible for the opinions expressed.

1. In particular, see Robert J. Gordon, "The Recent Acceleration of Inflation and Its Lessons for the Future," *Brookings Papers on Economic Activity* (1:1970), pp. 8–41; and George L. Perry, "Changing Labor Markets and Inflation," *Brookings Papers on Economic Activity* (3.1970), pp. 411–41.

Throughout the paper, I will occasionally refer to the notion of the equilibrium level of unemployment. I use this term more or less synonymously with "full employment unemployment" to mean the level that, if maintained permanently, would produce a steady rate of inflation of 3 or 4 percent per year.[2] Most economists agree that this is somewhere between 4 and 5 percent unemployment.[3] Further, to forestall misunderstanding, I should say something about the relevance of my study to contemporary macroeconomic problems. Nothing in this paper directly concerns the state of the economy at the end of 1970 with 6.0 percent unemployment, surely above the equilibrium level at current rates of inflation of 4 to 6 percent per year. Rather, the paper concerns current problems of macroeconomic policy in the sense that it suggests why it would not be possible to reach and maintain, in a year or two, a level of unemployment of, say, 3 percent, through the application of even the most intelligently conceived fiscal and monetary policy.

The body of the paper begins with a discussion of the problem of defining and measuring unemployment. Definition derives from theory. In this case the theory underlying most macroeconomic thinking about unemployment is that of Keynes. Keynes believed that a certain level of frictional unemployment was characteristic of all labor markets, but that, in addition, involuntary unemployment could arise when a condition of disequilibrium existed in labor markets, with supply exceeding demand. Involuntary unemployment, then, is the difference between supply and demand. Further, as Keynes emphasized, the forces causing movement toward aggregate equilibrium in the labor market are weak, so unemployment will persist in the absence of active policy—indeed, even in its presence, as this paper seeks to explore.

Keynes proposed an elaborate and frequently misunderstood definition

2. There is nothing special about this rate of inflation. In general, the optimal rate of inflation depends on the relative social costs of unemployment and inflation. This rate is merely illustrative and does not play an important role in what follows.

3. Milton Friedman, Edmund Phelps, and a number of other economists have argued that the equilibrium rate defined in this way is a fixed, "natural" rate, independent of the steady-state rate of inflation. If so, my definition of full employment unemployment is unambiguous; otherwise, it depends, probably not very sensitively, on the rate of inflation. See, for example, Milton Friedman, "The Role of Monetary Policy," in *American Economic Review*, Vol. 58 (March 1968), pp. 1–17; and Edmund S. Phelps, "The New Microeconomics in Inflation and Employment Theory," in American Economic Association, *Papers and Proceedings of the Eighty-first Annual Meeting, 1968* (*American Economic Review*, Vol. 59, May 1969), pp. 147–60.

of involuntary unemployment to accompany his theory. For my purposes, his definition can be put in the following simple way: A person is unemployed if he offers his labor at its market price but is unable to find a buyer. Keynes explicitly distinguished this kind of unemployment from frictional unemployment, which he believed arose in the normal operation of the labor market. From the start, government agencies have had to use a single definition to measure all unemployment, and problems of measurement have caused the definition used in the United States to evolve toward one more appropriate for measuring frictional unemployment. The next section discusses the implications of this change, and concludes with a warning about the unreliability of all data on unemployment. The reader will note that the warning is largely unheeded in the rest of the paper. Unemployment is too important a problem to be ignored by empirical economists on the grounds of unsatisfactory data.

A basic theme of this paper is that the Keynesian dichotomy between frictional and involuntary unemployment, however useful to the study of cyclical contractions in aggregate demand, for which it was originally formulated, is not helpful in examining the problem of unemployment at full employment. This theme is developed in the last three sections. Before starting that discussion, however, I examine the data on unemployment from a different point of view, without attempting to distinguish between frictional and involuntary components, or, indeed, between any measures of normal and abnormal unemployment. This point of view holds that the persistence of unemployment at full employment may be explained in part by the fact that a few geographical regions contribute a disproportionate amount of unemployment when the economy as a whole is at full employment. Structural imbalances of this sort are the basis of one important school of thought about Phillips curves. Data on unemployment by city seem to confirm the hypothesis that geographic variation in unemployment is important, and, moreover, they suggest that these differentials are persistent. The discussion of this observation anticipates some of what is said later about turnover in the labor force.

There follows a discussion of how one might classify the various kinds of unemployment that exist at full employment. It would be useful to separate total unemployment into a normal component, about which policy makers should not worry, and an abnormal component, about which they should. The normal component would exist even in an efficiently organized labor market, and typically the experience of unemploy-

ment would be brief and infrequent for any single worker. The traditional distinction between frictional and involuntary unemployment appears to suggest that the frictional component is normal and the involuntary component is abnormal. However, there is no satisfactory practical way to measure the two components. A crude approach is to suppose that individuals who find jobs after looking for a certain period constitute the frictionally unemployed, while those who remain unemployed for long periods constitute the involuntarily unemployed. That is, one might measure abnormal unemployment as the amount of chronic unemployment. The notion of "hard-core" unemployment seems to embody the view that a substantial number of individuals are permanently out of work, and that the main social problem of unemployment involves these individuals rather than those who are unemployed but find jobs within a few weeks or months. Confronted with the data on the duration of unemployment, this view suffers rather badly. At full employment, very few individuals remain unemployed for more than a few months. Further, it does not appear that there are large numbers of individuals who are actually chronically unemployed but are reported as out of the labor force in the official data.

If unemployment is pathologically high at full employment, then, it must be that some part of frictional unemployment is abnormal. The exploration of this hypothesis is the topic of the last two sections. First I calculate a theoretical full employment rate of unemployment starting from the assumption that normal turnover—changes from school to job and from job to job—accounts for all unemployment. For white males, the actual rate in a month of full employment is slightly below the hypothetical rate, but for blacks and for females the rates are far above it. From this I conclude that turnover is higher than it ought to be if labor markets are working properly, and that not every change in job constitutes normal advance of a career or normal movement from an industry with declining demand to one with increasing demand. The final section looks into the differences between white males and others in terms of their pattern of wages over age groups. It concludes with some evidence on differentials in unemployment among members of the same sex-race group.

With the existing data it does not seem possible to distinguish sharply between the normal and abnormal components of unemployment. No rule for doing so is offered in this paper. The evidence presented here does seem to suggest the following answer to the somewhat paradoxical question posed in the title of the paper: Unemployment is high at full employment

both because (1) normal unemployment remains high—the natural flow of workers through the labor market is high; and (2) there is an additional component of abnormal unemployment—members of some groups in the labor force do not follow definite careers but change frequently and erratically from one job to another, experiencing unemployment with most changes.

Defining and Measuring Unemployment

The problem of defining and measuring unemployment has concerned economists since the Great Depression, when it became clear that unemployment was the single most important indicator of economic distress in an industrial economy. The simple disequilibrium view has dominated thinking about the definition of unemployment since then, even in periods like the late 1960s when aggregate excess supply plainly did not exist in the labor market. The major debate of the late 1950s and early 1960s between advocates of the structural and deficient-aggregate-demand views of the prevailing high rates of unemployment was carried out largely within the definition implicit in the disequilibrium theory. According to that definition, unemployment is the difference between the supply and demand for labor at the prevailing rigid wage. An unemployed person is one who is willing to work at a wage currently being paid to other individuals like himself, but who finds no job available. This definition is purely subjective —there is no objective way to distinguish between an individual who is unemployed and one who has decided not to work.

Early attempts to measure unemployment involved simply asking a representative group of individuals whether they were working, and if not, whether they thought they were unemployed. Doubts about this procedure led to the use of a more behavioral definition. The celebrated report of the Gordon Committee, *Measuring Employment and Unemployment*, laid down as its first general rule that "each concept should correspond to objectively measurable phenomena and should depend as little as possible on personal opinion or subjective attitudes."[4] The objectively measurable phenomenon underlying the measure of unemployment currently in use in the United

4. President's Committee To Appraise Employment and Unemployment Statistics, *Measuring Employment and Unemployment* (1962), p. 43.

States is "specific job-seeking activity within the past four weeks."[5] It would be natural to expect that many individuals who were unemployed in the sense of the original definition would not be recorded as unemployed according to this criterion. The disequilibrium theory of unemployment does not suggest that a rational person would continue to search for work after discovering the existence of excess supply for labor.

The Gordon Committee recommended that the household survey be extended to identify "discouraged workers" who had stopped looking for work. The extension was carried out starting in January 1967, and quarterly data have been published since December 1969. They show that there are very few discouraged workers when the labor market is tight. In the second quarter of 1969, there were 149,000 men and 386,000 women who had not looked for work in the past four weeks who still desired it but reported that they were unable to find it. By contrast, there were 1,254,000 men and 1,288,000 women unemployed in April 1969 according to the official definition. These results suggest that no major error is caused by using a strict definition of unemployment in terms of recent activity in seeking jobs. I will argue later in the paper that there is a different sense in which many individuals out of the labor force might be classified as unemployed.

Evidence from the monthly household survey suggests, however, that even the new definition measures partly the individual's state of mind, or more precisely, the opinion of the respondent (generally, the wife) about the state of mind of the adults in the household. In any month, the sample contains eight groups distinguished by the number of times the household has appeared previously in the survey. Each household included in the sample appears for four consecutive months, is dropped for eight months, and then appears again for four consecutive months. Each of these rotation groups is drawn by the same carefully arranged sampling plan, and, except for random fluctuations, each group should give the same estimates of total unemployment when properly inflated. This turns out to be far from the case. A peculiar and persistent phenomenon known as rotation group bias appears in the data on unemployment. The following data[6] illustrate the

5. U.S. Bureau of Labor Statistics and U.S. Bureau of the Census, "Concepts and Methods Used in Manpower Statistics from the Current Population Survey," BLS Report 313 and Census Bureau, *Current Population Reports*, Series P-23, No. 22 (1967), p. 5.

6. These data come from unpublished computer tabulations of the U.S. Bureau of Labor Statistics.

problem; they show unemployment by rotation group as a percent of the average for all rotation groups in February 1970.

Month in the survey							
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
114.2	91.3	110.8	101.8	100.8	91.4	93.2	96.5

Households tend generally to report higher unemployment if they have recently been added to the sample, except for the second group. The first four rotation groups account for well over half of the unemployment reported in the whole sample. Apparently the act of interviewing one member of a household for the first time has a perceptible effect on the likelihood that one or more members of the family will be reported as unemployed. Either the initial interview causes individuals who were previously looking for work to leave the labor force, or it induces a change in the respondent's or the subject's opinion about the latter's status in the labor force. The second seems the more likely explanation, and suggests that the official measure of unemployment is rather more subjective than might appear from its description. My results, and those of others studying unemployment, should be interpreted with this in mind. In particular, some of the differences in reported unemployment rates among demographic groups may arise purely because of differences in the meaning attributed to the questions in the household survey. It seems unlikely, however, that any large fraction of the sizable difference between, for example, blacks and whites can be explained in this way.

Geographical Variations in Unemployment

A conventional view among economists about the persistence of unemployment when the economy is at full employment can be put in the following way: There are many different labor markets, distinguished by geographical location and the skills and other characteristics of the participants. Workers cannot move easily from one market to another since it is expensive to move their households or to acquire a new set of skills. At any point in time, some of the markets will be in equilibrium (involving, of course, frictional unemployment, as noted earlier), some will have

shortages of workers, and some will have excess workers and hence unemployment. If demand begins to expand in all of the markets more or less uniformly, then the labor shortages will become more severe, and some of the markets that had unemployment before will develop shortages themselves. But even if demand rises to the point that shortages are widespread and wages are rising briskly, so that the economy appears to be at full employment, some markets will still have unemployment. To put it another way, there are bottlenecks that prevent output from rising enough to reduce unemployment to minimal frictional levels in every market.

Two forces tend to bring about the gradual elimination of the kind of imbalance just described. First, in the longer run workers may move from a market with excess labor supply to one with a labor shortage, either by relocating geographically or by offering a different skill. Second, the wage level may fall (at least relative to other wages) in markets with unemployment, stimulating demand for labor in those markets, and eventually putting the unemployed to work. Economists continue to disagree about the strength of these two equilibrating forces. Pessimists believe that they are so weak that there are markets—for unskilled workers in depressed regions, for example—where unemployment above frictional levels is virtually permanent in spite of the most energetic expansionary policy for aggregate demand. This is the hypothesis of structural unemployment.[7] A more optimistic view holds that under conditions of stable demand, the equilibrating forces of labor mobility and changes in relative wages could eventually eliminate unemployment and labor shortage in every labor market, but that the process is thwarted by continual shifts in the composition of demand. According to this view, high unemployment at full employment is simply a reflection of the fact that, at any moment in time, some unlucky workers will find themselves in markets where the demand for labor has just fallen relative to the supply, creating unemployment.

I propose to examine these hypotheses in terms of the conditions in the labor markets of twelve large cities in the United States, without trying to distinguish the various markets in each city for skills of different types. By any measure of unemployment, there are substantial variations among cities in their rates of unemployment. Table 1 presents estimates prepared for the Manpower Administration of average annual rates of unemploy-

7. My characterization of the problem of structural unemployment follows Robert M. Solow, *The Nature and Sources of Unemployment in the United States* (Stockholm: Almqvist and Wiksell, 1964).

Table 1. Unemployment Rates in Twelve Cities, Annual Averages, 1965–69

Percent[a]

City	*1965*	*1966*	*1967*	*1968*	*1969*
Baltimore	3.8	2.9	2.8	2.9	2.8
Chicago	3.0	2.6	2.7	2.7	2.5
Cleveland	3.1	2.6	2.8	2.5	2.3
Detroit	3.5	3.3	4.2	3.9	3.7
Houston	3.2	2.4	2.1	1.9	2.2
Los Angeles	5.7	4.5	4.5	4.2	4.1
New York	4.5	4.2	3.7	3.3	3.2
Philadelphia	4.3	3.3	3.2	3.1	3.0
Pittsburgh	3.6	3.0	3.1	2.8	2.5
St. Louis	3.5	3.3	3.4	3.5	3.5
San Francisco	5.0	4.4	4.4	4.0	3.9
Washington, D.C.	2.2	2.4	2.3	2.2	2.2

Source: *Manpower Report of the President, March 1970*. Prepared by the U.S. Department of Labor (1970), Table D-8, pp. 284–86.

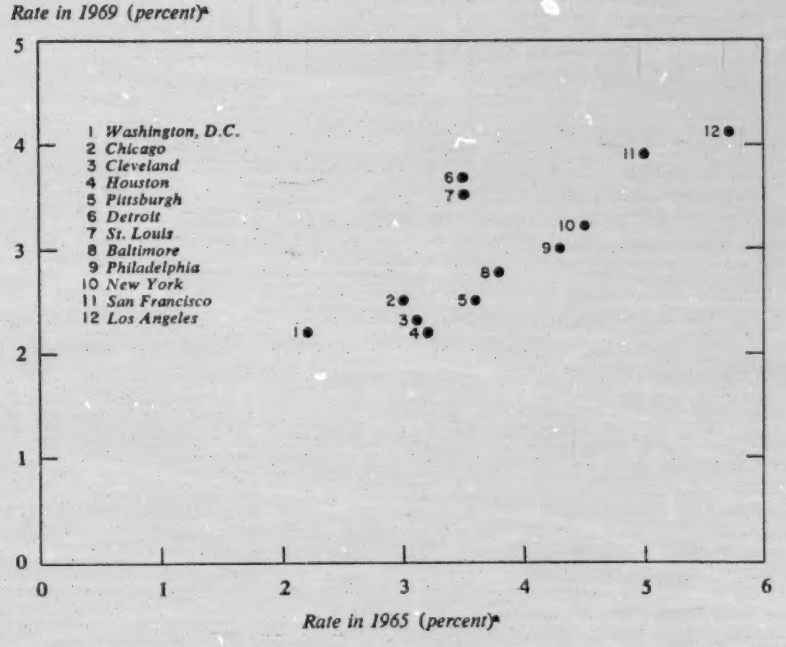
a. Annual averages of total unemployment as percent of total work force.

ment for the twelve cities.[8] In 1965, a year of 4.5 percent national unemployment, the highest rate was considerably more than twice the lowest rate. Four years later, in 1969, when the national unemployment rate was 3.5 percent, the rates still show a great deal of dispersion; further, there seems to have been a general tendency for the rates to fall more or less uniformly.

These data seem to support the conventional view that a few markets with excess supply of labor contribute disproportionately to the national unemployment rate. Moreover, they seem to support the hypothesis of long-term structural unemployment. They show little evidence that the equilibrating forces have much effect over the four-year span of the data. The scatter diagram of Figure 1 demonstrates this graphically. Except for Detroit and St. Louis, the cities fall along a smooth curve: Those that had high unemployment in 1965 still suffered it in 1969 and those with low rates in earlier years continued to experience them. Before embracing the structural hypothesis, however, I think it is appropriate to consider alternative

8. This is the only set of estimates of unemployment by city available annually for years before 1968. They are prepared from data on claims for unemployment insurance, payrolls, and various other sources. The Bureau of Labor Statistics has recently published estimates of unemployment rates by city from the household survey averaged over 1969. See Paul O. Flaim and Paul M. Schwab, "Geographic Aspects of Unemployment in 1969," *Employment and Earnings*, Vol. 16 (April 1970), pp. 5–6, 16–22.

Figure 1. Relation between Unemployment Rates in 1965 and 1969, in Twelve Cities



Source: Table 1.
a. Annual average of total unemployment as percent of total work force.

explanations of the persistent differentials in the unemployment rates of these cities.

In the first place, the unemployment rate for each city represents an average over the rates of disparate groups in the labor force. For example, teenagers invariably have high rates of unemployment, so if a city has an unusually large fraction of teenagers, its unemployment rate will be high relative to those of other cities even though neither its rate for adults nor its rate for teenagers is high. An adjustment for the varying composition of the labor forces of the twelve cities appears necessary before any meaningful conclusion can be drawn about the persistence of differentials in unemployment rates.

It is not possible to adjust the data on unemployment by city from the Manpower Administration or from the household survey for compositional differences other than race. However, in a study of data on individuals that is reported briefly in the appendix,[9] the statistical method of regression is used to estimate the pure differentials between the unemployment rates (or more precisely, weeks of unemployment per year) in the twelve cities, for the four sex-race groups, simultaneously estimating the pure effects of age, marital status, family size, income, and wages. The wage effects are particularly important, and I will return to them in a later section. For the moment, the fact that the estimates of the pure geographical effects take account of wage differences means that cities with unusually large proportions of well-paid workers (who generally have very low rates of unemployment) are put on an equal footing with those having more typical labor forces.

Important as this kind of adjustment is in principle, it turns out to make remarkably little difference in this case. Table 2 presents the pure geographical effects estimated from the regression. Simple averages calculated from the same data are remarkably similar, indicating that the adjustment for composition has little practical effect on the estimates of the differentials among the rates of unemployment in the twelve cities. The adjustments for composition that would be appropriate for the annual data from the Manpower Administration discussed above would be very much the same, so it seems safe to conclude that the annual data would be little changed by this kind of adjustment. The high correlation between the differentials by city for white males estimated from the Survey of Economic Opportunity (SEO) data and the data for 1966 from the Manpower Administration makes this conclusion even more tenable.

This seems to rule out the simple explanation that the persistent differentials in unemployment by city are the result of corresponding differences in the composition of the labor forces of the cities. The structural hypothesis seems to be the winner. Must optimists now abandon their view that, left to themselves, the equilibrating forces of labor mobility and changes in relative wages will gradually eliminate differentials in unemployment rates? Perhaps so. I offer here a distinctly tentative hypothesis

9. Data for this study were obtained from the Survey of Economic Opportunity, conducted by the U.S. Bureau of the Census in the spring of 1967. The annual data refer to 1966.

Table 2 Estimates of Weeks of Unemployment in Twelve Cities, by Sex and Race, 1966

City	*Men*		*Women*	
	White	*Black*	*White*	*Black*
Baltimore	1.7	3.1	0.7	0.2
Chicago	1.3	2.3	1.1	0.6
Cleveland	1.6	3.2	1.0	2.5
Detroit	2.8	5.5	1.1	2.3
Houston	2.2	0.0	0.8	0.6
Los Angeles	3.3	6.4	1.5	2.2
New York	3.0	2.7	1.3	1.0
Philadelphia	1.9	2.9	1.0	1.5
Pittsburgh	2.8	4.5	1.5	2.7
St. Louis	2.6	2.2	1.0	4.2
San Francisco	3.6	8.0	1.7	2.3
Washington, D.C.	2.0	2.2	0.7	0.7

Source: Derived from regression estimates shown in Table A-1. The estimates are for individuals with specified characteristics. See the appendix for details.

that might explain the apparent weakness of the equilibrating forces in terms that should not be offensive to economists who have a basic faith in the efficacy of the price system.

In the data from the SEO, there is a positive association between average weeks of unemployment for men and average wages among the twelve cities.[10] High-wage cities, notably San Francisco and Los Angeles, have high rates of unemployment, and low-wage cities tend to have low rates of unemployment. The data are presented in Figure 2 for men and women. If there is a general tendency for cities with high wages to have high unemployment rates, then there is no longer a presumption that geographical mobility of labor will act to reduce unemployment. The attraction of high wages may cancel or even outweigh the discouraging effect of unemployment.[11] A rational worker might decide to move from Cleveland to Los

10. The wage rates used here are also adjusted for variations in the composition of the labor force by city. They are presented in Robert E. Hall, "Wages, Income, and Hours of Work in the U.S. Labor Force," Working Paper 62 (Massachusetts Institute of Technology, Department of Economics, August 1970; processed).

11. Unemployment does not necessarily exert its discouraging effect directly. Rather, high unemployment may be a sign of low rates of job vacancies.

Angeles even though it is much harder to find a job in California, precisely because wages are significantly higher there. In this situation, geographical mobility of labor may not function at all as an equilibrating force. If the decisions of most families about their locations are influenced mainly by consideration of the husband's employment, then the relationship between unemployment and wages should be stronger for men than for women.

What about the other main equilibrating force, changes in relative wages? Deeply embedded in modern economic thought is the idea that excess supply of labor in a market should drive down the wage, at least relative to the average wage in all markets. It is, for example, the explanation of the Phillips curve. The basic mechanism that economists usually have in mind is that in a market where unemployment is high, employers find it possible to hire at slightly lower wages, or at least they need not keep up with wage increases in other markets in order to fill their jobs. In this view, the pool of unemployment consists of workers who are increasingly desperate for work, and who will take somewhat lower wages than they had originally expected. I have suggested above, however, that those unemployed in a city with high wages may have a rather different attitude: They may be in the market precisely because they are willing to pay the price of a spell of unemployment in order to locate a high-paying job. If so, there is no reason to expect this kind of unemployment to exert a downward pressure on wages. The employer who offered a job at a slightly reduced wage to an unemployed worker would simply be refused.

One final question needs to be answered to complete this explanation. Why do employers hire in cities with high wages rather than relocating in low-wage areas? In the long run, one might expect the mobility of employers to bring about equalization of wages, even if the other forces were not acting to do so.[12] However, the existence of unemployment in his labor market is a distinct advantage to the employer. It acts to stabilize his work force, reducing his hiring costs and permitting him to capture the benefits of training that his workers acquire on the job. The existence of a high level of unemployment imposes a substantial price on workers who change jobs,

12. Of course, other factors as well determine the geographical pattern of wages. In an ideal set of labor markets, one would expect uniformly low unemployment rates and differences in wages that reflected only these other determinants. Climate is the obvious example of such an influence. By equalization, then, I really mean equalization after taking these other determinants into account.

Figure 2. Relation between Average Wages and Weeks of Unemployment in Twelve Cities, by Race and Sex, 1966

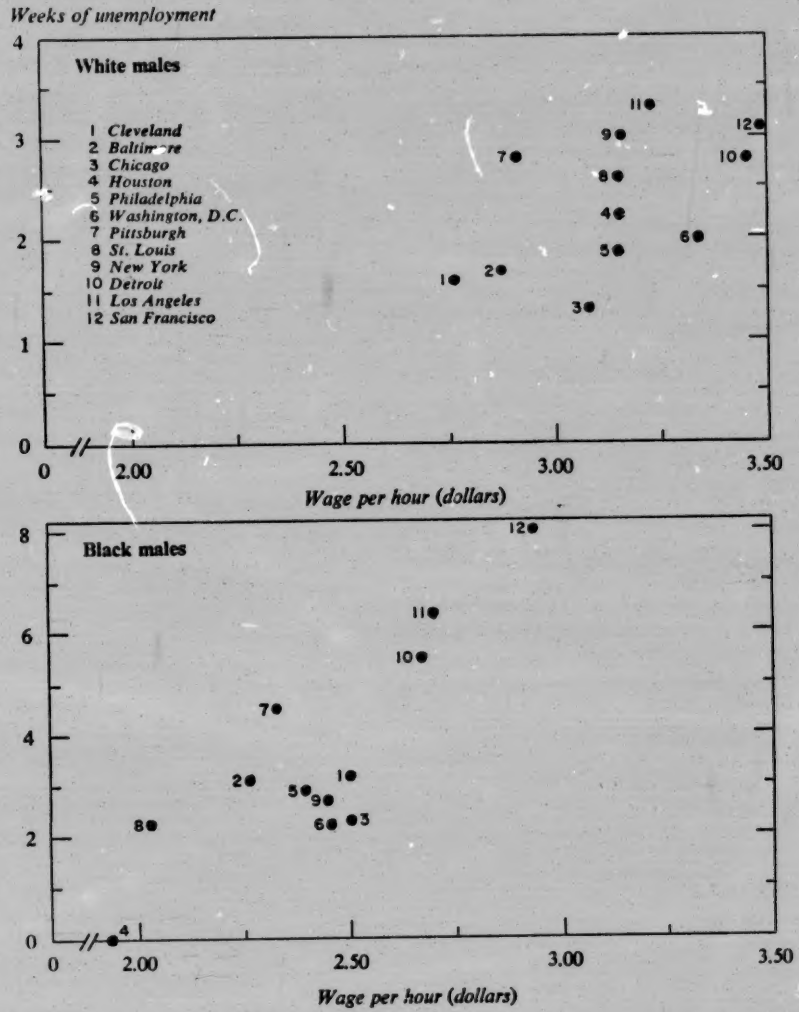
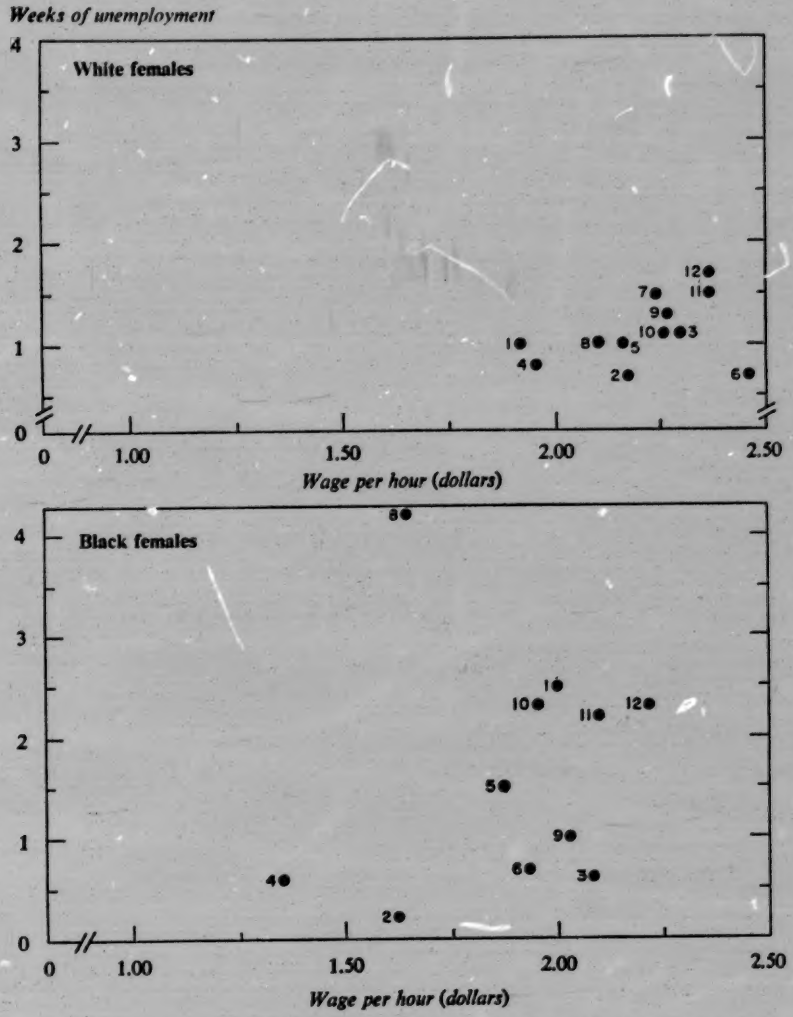


Figure 2. (*continued*)



Source: Wages—Robert E. Hall, "Wages, Income, and Hours of Work in the U.S. Labor Force," Working Paper 62 (Massachusetts Institute of Technology, Department of Economics, August 1970; processed), p. 25; weeks of unemployment—Table 2.

and materially reduces the frequency with which workers do so voluntarily. The prospective employer, deciding where to locate, can buy stability in his work force by locating in a high-wage, high-unemployment city.

Taken together, these arguments suggest that there can be an indeterminacy of the equilibrium in the labor market of a city. There may be a whole set of unemployment-wage combinations each of which represents equilibrium in the sense that it can be maintained indefinitely. None of the combinations is really satisfactory, and it would be unfortunate to suppose that the goal of manpower policy should be to try to move to a position of low unemployment and accept the consequent low wage. If some other means, less costly than unemployment, could be found to reduce turnover, then the equilibrium could be at high wages and low unemployment.

Is There a Substantial Amount of Chronic Unemployment at Full Employment?

Popular accounts of unemployment often seem to suggest that full employment leaves behind a residual group of chronically unemployed workers who are unable to find work over long periods of time. I interpret the notion of chronic unemployment to refer to individuals who are literally unable to find a job after looking for six months or more. This is a very stringent definition (some might say it is a caricature of the usual idea of chronic unemployment); I use it because there is still a very large difference between having difficulty finding a job (spending up to six months searching), and not being able to find a job at all. Nothing in my definition is intended to suggest that there is not a great deal of hardship in four or five months of joblessness. I wish to suggest only that it is misleading to label a spell of unemployment of this length as chronic unemployment. I think it important to distinguish between truly chronic unemployment, in which the same individuals remain unemployed month after month, and unemployment involving continual, even if relatively slow, turnover among the unemployed.

The first place to evaluate the importance of chronic unemployment is in the data on the duration of unemployment.[13] Table 3 presents these data

13. These data are particularly sensitive to the kinds of errors discussed in pp. 373–75. In particular, unemployed individuals seem to have a tendency to date their spells of

Table 3. Percentage Distribution of Unemployment in Sex and Age Groups, by Duration, April 1969

Sex and age	*Weeks of unemployment*			
	0–4	*5–14*	*15–26*	*27 or more*
Both sexes, 16–19 years	60.1	25.6	7.3	7.0
Male, 20 years and over	47.9	26.2	18.4	7.4
Female, 20 years and over	55.1	25.6	14.5	4.9

Source: *Employment and Earnings*, Vol. 15 (May 1969), Table A-13, p. 39.

for April 1969, a month of high employment. About half of those unemployed in that month had become so within the previous four weeks. Only a very small fraction had been unemployed for six months or more: in the case of adult men, 7.4 percent of the total, or about 70,000 individuals. If chronic unemployment is a major social problem when the economy is at full employment, that fact is not revealed in the data on unemployment from the household survey. Those data show that individuals leave the status of unemployment relatively rapidly; very few of them are reported as unemployed for long periods.

The definition of unemployment used in the survey practically guarantees that little chronic unemployment will be reported. If an individual is unable to find work after searching for several months, he may well not take the trouble to engage in specific job-seeking activities in the four weeks preceding the survey. In an earlier section I discussed the new data on individuals not in the labor force who nonetheless desire a job or would normally be in the labor force. It is now useful to take a second look at this group, which is not very large compared with total unemployment, but is certainly large enough so that if it comprised mainly those permanently out of work, it would indicate that chronic unemployment was a major problem. In February 1967, the Bureau of the Census carried out a follow-up survey of men aged 20 through 64 who were reported as not in the labor force in the regular monthly survey one week earlier.[14] Most of them were sick or dis-

unemployment from the month when they entered the survey. Since each household spends only four consecutive months in the survey, this bias may cause an understatement of very long-term unemployment.

14. Vera C. Perrella and Edward J. O'Boyle, "Work Plans of Men Not in the Labor Force," *Monthly Labor Review*, Vol. 91 (August 1968), pp. 8–14.

abled (59.0 percent) or retired (10.7 percent). Almost 700,000 men, however, were out of the labor force for unusual reasons—that is, for reasons other than poor health or retirement. Might not some fraction of these be chronically unemployed? The survey seems to rule this out almost completely. Astonishingly enough, just under half of those who had been out of the labor force the previous week were back in it by the time the follow-up survey was made. Table 4 gives the complete breakdown by age groups

Table 4. Status of Men One Week after Being Recorded as Not in the Labor Force for Unusual Reasons, February 1967

Thousands

Status	*Age group*		
	20–34 years	*35–59 years*	*60–64 years*
Now in labor force	86	191	64
Expect to be in labor force within four weeks	24	85	20
Want a job but not looking	18	62	48
Do not want a job	24	36	41
Total	152	374	173

Source: Vera C. Perrella and Edward J. O'Boyle, "Work Plans of Men Not in the Labor Force," *Monthly Labor Review*, Vol. 91 (August 1968), pp. 8–14. Derived by excluding the categories "sick or disabled" and "retired" from their Table 2, p. 10.

and status at the time of the follow-up survey.[15] In the two younger age groups almost three-quarters of those who had been out of the labor force were either back in it or planned to be within four weeks. Men 60 and above account for a substantially disproportionate share of those who might be chronically out of the labor force while still desiring to work. The results of the survey show that ill health is the main cause of temporary withdrawal from the labor force. For example, about half of those who planned to be back in the labor force within four weeks reported that illness, accident, or other disability was responsible for their withdrawal. Only 22 percent gave reasons related to unavailability of work, and most of them were construction workers experiencing a seasonal lull in February. The others gave various reasons, such as recent discharge from military service and bad weather. Similarly, health problems were cited by more

15. These data are even more prone to error than those from the regular survey, since they are subject to an unknown bias caused by the unusual interviewing schedule.

than half of those who wanted jobs but were not looking.[16] No similar data seem to be available for those who were back in the labor force at the time of the interview. Nothing in the survey supports the hypothesis that unavailability of work is an important cause of withdrawal from the labor force. The overwhelming impression from these data is that the rate of turnover among those who are out of the labor force for unusual reasons is, if anything, greater than the rate of turnover among the unemployed. In neither group is there evidence of a substantial number of individuals who are chronically out of work.

The very large flow into the labor force of individuals who were out of the labor force for unusual reasons suggests that the latter status represents a temporary way station occupied partly by people who are about to start looking for work. If so, the distinction between those who are unemployed and those who are temporarily out of the labor force is rather arbitrary. A more comprehensive definition of the labor force and of unemployment would include those individuals who are about to start looking for work. The data necessary to distinguish between them and those who are temporarily unable to work are not available, however.

The evidence just presented does not show conclusively that there are few individuals who are permanently unable to find work. The evidence is consistent with the presence of large numbers of individuals who oscillate between unemployment and withdrawing from the labor force without ever finding work. In fact, those in the special survey who were reentering the labor force had suffered in the previous year from substantially more unemployment than did typical members of the labor force. However, a very large fraction—seven out of eight—of those returning to the labor force who were in it in the previous year had worked at some time during that year.[17] Most of those who did not work at all probably looked for work only a small part of the year.

Taken together, the evidence on the duration of unemployment and on individuals who are not in the labor force suggests rather strongly that chronic inability to find a job is not a problem faced by a significant number of people when the economy is at full employment. The real problem is that many workers have frequent short spells of unemployment. This is the topic of the next section.

16. Vera C. Perrella and Edward J. O'Boyle, "Work Plans of Men Not in the Labor Force," *Monthly Labor Review*, Vol. 91 (September 1968), pp. 35–36.

17. *Ibid.*, p. 35.

Frictional Unemployment and Turnover in the Labor Force

Economists have generally recognized that a certain amount of unemployment will always arise in the normal operation of a labor market. Especially when unemployment is defined in terms of activity in looking for a job, a certain fraction of the nonworking population will be searching for work whenever the household survey is conducted, and will be measured as unemployed. At full employment, in fact, a good fraction of those unemployed are at natural transition points in their careers where it is normal to be looking for jobs; those who have just finished school or have just been discharged from the military are the obvious examples. In April 1969, individuals with no previous work experience constituted over 11 percent of total unemployment and reentrants to the labor force constituted another 30 percent. Experienced workers may seek new jobs, either because they have exhausted the possibilities for training and advancement in their old jobs, or because technical progress or shifts in the composition of demand have eliminated their previous jobs. Unemployed individuals who are changing jobs may have been laid off, or they may have quit in the belief that more favorable opportunities exist elsewhere. These two sources accounted for 43 and 16 percent, respectively, of total unemployment in April 1969. Unemployment that arises from any of these sources need not be a subject of social concern if the unemployed find jobs reasonably rapidly; in fact, labor markets could not function efficiently if workers did not spend some fraction of their time searching for the best possible jobs.

This observation has led some economists to adopt normal turnover as a unitary explanation of unemployment. The resulting doctrine is rather loosely called the Search Theory of Unemployment.[18] It emphasizes that it is rational for an unemployed worker not to take the first job available, but to wait long enough to get a particularly good job. This incentive to remain unemployed operates even when the demand for labor is exceedingly strong, so there is a level of frictional unemployment that is the irreducible minimum that can be achieved by expansionary fiscal and monetary policy.

In the search theory, unemployment is a transitory experience, generally associated with voluntary or involuntary changes in jobs. The appropriate

18. Many interesting papers on the search theory and related topics appear in Edmund S. Phelps and others, *Microeconomic Foundations of Employment and Inflation Theory* (Norton, 1970).

policy for reducing unemployment, then, is to eliminate some of the friction in the labor market. The policy conclusions of the search theory are typified by Charles C. Holt's ingenious suggestion that the offices of the U.S. Employment Service should be kept open at night so that workers can search for new jobs before quitting their old ones.[19] To practical economists, something is missing here. In the course of providing a firm logical foundation for the traditional notion of frictional unemployment, the search theory seems to claim that all unemployment is frictional, that every person who reports himself as out of work is spending a few weeks between jobs in the normal advancement of his career. In his discussion of Holt's and Phelps' work, Otto Eckstein puts this point forcefully: ". . . the central employment problem of our society today is the disparity of employment opportunities among blacks and whites, among skilled and unskilled, among young and experienced. . . . We are in danger of devising a labor market theory which is as remote from the central employment problem of our times as the classical theory was in the 1930's."[20]

In the previous section I tried to show that chronic unemployment is not the central employment problem of our time, either. Whatever the merit of Eckstein's criticism, it does not appear that the search theorists are wrong in looking at the problem of unemployment from the point of view of turnover in the labor force. The central problem seems to be that some groups in the labor force have rates of unemployment that are far in excess of the rates that would accord with the hypothesis that the unemployed are making a normal transition from one job to another. Some groups exhibit what seems to be pathological instability in holding jobs. Changing from one low-paying, unpleasant job to another, often several times a year, is the typical pattern of some workers. The resulting unemployment can hardly be said to be the outcome of a normal process of career advancement. The true problem of hard-core unemployment is that certain members of the labor force account for a disproportionate share of unemployment because they drift from one unsatisfactory job to another, spending the time between jobs either unemployed or out of the labor force. The most compact evidence supporting the existence of such

19. "Improving the Labor Market Trade-off between Inflation and Unemployment," in American Economic Association, *Papers and Proceedings of the Eighty-first Annual Meeting, 1968* (*American Economic Review*, Vol. 59, May 1969), p. 142.

20. "Discussion," in American Economic Association, *Papers and Proceedings* (May 1969), p. 163.

a group is provided by the data on the number of spells of unemployment experienced by the labor force. Among those who were unemployed at some time in 1968, 69 percent had only one spell of unemployment, 15 percent had two spells, and 16 percent had three or more.[21] The overall unemployment rate in 1968 was 3.6 percent, and the average unemployed person required about one month to find a new job. The implied average duration between spells of unemployment was about twenty-seven months. In order to have two, much less three, spells of unemployment in the same twelve months, an individual could hardly be making normal changes in jobs. Yet almost a third of those unemployed at all in 1968—more than 3 million individuals—had two or more spells. The existence of this group is surely a matter of social concern.

In order to identify groups in the labor force who suffer from excess unemployment at full employment, it is necessary to make a crude guess about the amount of unemployment that arises from normal turnover. I have done this by making a set of assumptions about the time required to find a job and the frequency with which individuals of various ages change jobs.[22] From this I have calculated the implied rates of unemployment by age groups, as shown in Table 5. The assumptions are as follows: (1) An individual looking for his first job requires, on the average, two months to find it, but he requires only one month to find subsequent jobs; (2) teenagers change jobs every year, young adults every two years, and adults (age 25 and over) every four years; (3) the pattern of entry into the labor force yields the distribution between inexperienced and experienced members shown in columns 1 and 3 of Table 5. The resulting hypothetical normal rates of unemployment appear in column 6 of the table. With the distribution of the labor force among age groups prevailing in 1969, the overall normal unemployment rate would be 3.3 percent, not a great deal below the actual rate of 3.5 percent. The last four columns show why this is so. White males, the largest of the four sex-race groups, actually had unemployment rates below the hypothetical normal rates in every age group in April 1969. This probably demonstrates that the assumptions used in making the calculations are a little pessimistic, although it should be kept in

21. Vera C. Perrella, "Work Experience of the Population," *Monthly Labor Review*, Vol. 93 (February 1970), Table 2, p. 57.

22. These are purely assumptions and are not drawn from any data. Actual data would, of course, include the effects of the abnormal unemployment I am trying to distinguish.

Table 5. Comparison of Hypothetical Normal Rates of Unemployment and Actual Rates, by Age Group, April 1969

Age	Percent looking for or holding first job (1)	Percent looking for first job[a] (2)	Percent looking for or holding subsequent job (3)	Years per job (4)	Percent looking for subsequent job[b] (5)	Hypothetical normal unemployment rate (6)	Actual rates			
							Males		Females	
							White (7)	Black (8)	White (9)	Black (10)
16–17 years	75	13	25	1	2	15	11.1	18.0	12.9	22.8
18–19 years	38	6	62	1	5	11	7.0	19.0	9.1	23.3
20–24 years	6	1	94	2	4	5	3.8	8.6	4.8	13.0
25 years and over	0	0	100	4	2	2	1.6	2.7	2.7	5.5

Sources: Columns 1, 3, and 4—author's assumptions; column 2—one-sixth of column 1; column 5—one-twelfth of (column 3 divided by column 4); column 6—column 2 plus column 5; actual rates—*Employment and Earnings*, Vol. 15 (May 1969), Table A-3, pp. 31, 32.

a. Assumes that two months are required to find first jobs.

b. Assumes that one month is required to find subsequent jobs.

mind that April 1969 was a month of over-full employment and not one of equilibrium as I defined it at the beginning of the paper. It is important to note that if my assumptions are anywhere near the truth, the differentials between the unemployment rates of teenagers and adults among white males are a normal consequence of the process of looking for jobs and are not an indication of a special problem for teenagers. For black males, the situation is altogether different. Rates of unemployment are about 35 percent greater among adult black males than the hypothetical values, and are even higher for 18- and 19-year-olds. Nothing in the theory of turnover or frictional unemployment seems capable of explaining this extraordinary discrepancy. Blacks are poorly educated and poorly trained in comparison to their white counterparts, and they suffer from discrimination as well, but those facts do not adequately explain why they should take longer to find a job or why they should change jobs more often. In the framework of the search theory, a satisfactory explanation would involve demonstrating that it is in the interest of disadvantaged workers to search for jobs more often and for longer periods. I shall have a little more to say about this matter in a later section, but it remains an urgent unsolved problem of modern economic research.

White females have unemployment rates somewhat below the hypothetical levels in all but the highest age group. These and other data suggest that the main problems experienced by white females in the labor force arise not in their early years in the labor force, but after age 25. For example, as I shall show in the next section, wages paid to white females are almost as high as those paid to white males up to age 25, but after that age wages paid to men rise steadily while those paid to women remain at essentially the level of age 25.

Finally, black females suffer the largest discrepancy of all between actual and hypothetical unemployment rates. In fact, they suffer more than doubly for being black and for being women: In every category their unemployment rate exceeds the rate of white females by more than the difference between black and white males.

I conclude, then, that only among white males is normal turnover a satisfactory unitary explanation of the observed levels of unemployment by age groups. Signs of pathological excess unemployment appear in the data for women and blacks. Even for white males, unemployment is distributed unevenly between high- and low-paid workers, as I will show in the next section.

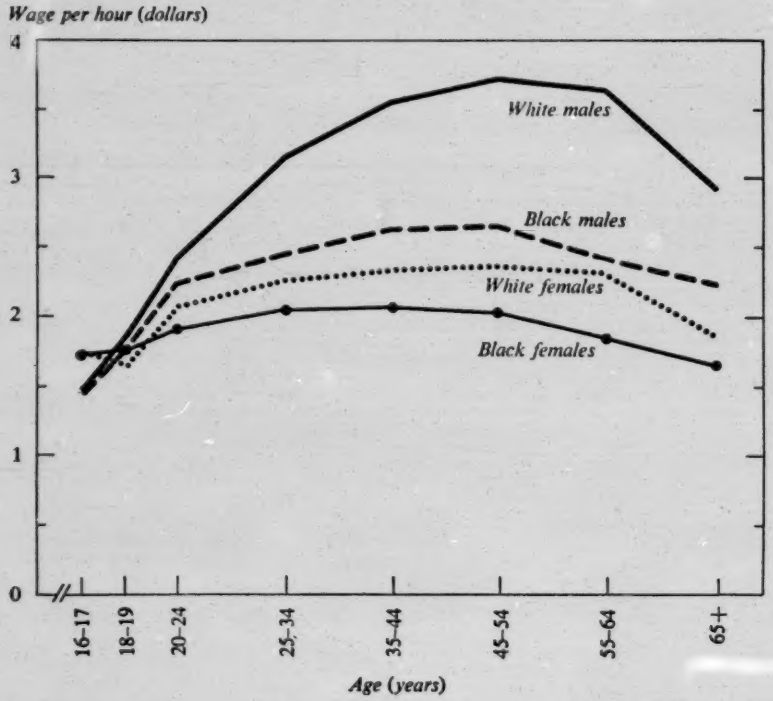
Workers Who Are Unemployed Frequently

Earlier in this paper I have argued that the problem of hard-core unemployment at full employment is not so much that there are individuals who are permanently out of work as that there are many workers who move frequently from job to job without advancing their careers. Further study of the problem ought logically to be carried out with data on the experience over time of a representative sample of members of the labor force. The existence of groups with unstable work histories could be confirmed and the nature of the problem examined more deeply with such data. The only data available, however, give information about the status of individuals only for a single year. This makes it necessary to infer conclusions about the experience of an individual over time from the status of similar individuals of different ages at the same point in time.

To an economist, the natural way to measure the progress of an individual worker is by his wage. As he accumulates experience and specialized training on the job, his hourly wage should rise year by year. At a point in time, then, the age-profile of wages should rise smoothly with age, provided that an appropriate adjustment is made for the fact that older workers tend to have less formal education and may tend to live in areas with lower wages. From the data in the Survey of Economic Opportunity, I have made estimates of the pure age profile of hourly wages, incorporating adjustments for years of education, location, union membership, health, and country of birth. The results are presented in Figure 3. They suggest that the whole notion of a career with steady advancement is relevant only for white males, whose wages rise through ages 45 to 54. Black males, and women of both races, make progress only through ages 20 to 24. From ages 25 to 34 onward, their wage profiles are practically flat.

From data on the status of a sample of individuals at a single point in time, something can be inferred about the proportion of time that individuals with various characteristics spend looking for work, although there is no way to tell if a high proportion is the result of many short spells or a few long ones. Within each of the four sex-race groups in the SEO sample, unemployment is very unevenly distributed. In general, workers with few skills are much more likely to be unemployed than others. Once again, to an economist, the natural overall measure of an individual's level of skill is the wage he earns, or would earn if he were working. To adjust for the

Figure 3. Age Profile of Wages, by Sex and Race, 1966



Source: Hall, "Wages, Income, and Hours of Work," Table 2-2, p. 23.

tendency for well-paid workers to live in cities where unemployment rates are high, and for other related effects, it is necessary again to use estimates of the pure effects obtained by regression. These are presented in Table 6 and incorporate adjustments for age, marital status, number of children, income, and location.

White males in the lower wage groups experience unemployment of moderate length; the length declines to the relatively low rate of 1.4 weeks per year in the highest wage group. Black males, in contrast, have much longer periods than whites in the lower wage groups, and shorter ones in the higher groups.[23] I offer the following tentative explanation for this

23. The negative value for the highest wage group for black males serves as a reminder that these results are subject to a certain amount of statistical variation.

Table 6. Estimates of Weeks of Unemployment, by Race, Sex, and Wage Groups, 1966

Hourly wage in dollars	*Men*		*Women*	
	White	*Black*	*White*	*Black*
0–1.50	4.3	9.4	1.3	1.0
1.50–1.75	2.8	8.3	1.1	1.3
1.75–2.00	2.8	4.9	1.0	1.6
2.00–2.50	3.0	2.7	0.8	1.2
2.50–3.00	2.0	0.0	0.9	0.3
3.00 or more	1.4	−1.0	0.0	0.6

Source: Derived from regression estimates shown in Table A-1 for married individuals, aged 20 through 59, with no children, living in the New York Standard Metropolitan Statistical Area, and with family incomes between $3,750 and $4,500 per adult per year.

difference: Whites are willing to work steadily at low-paying jobs because they are aware that they can start up a job ladder by establishing a stable employment record. Blacks, on the other hand, do not seem to have this opportunity, and therefore are likely to leave a low-paying job within a few months or a year. Thus trainees in banks and workers in service stations receive about the same hourly wages, but the trainees have an incentive to work hard and steadily that is absent for the service station men. A few blacks accomplish what is routine for whites, however, so in the higher wage groups there is much more selection of the most stable workers among blacks than among whites.

Racial differences among women are not as pronounced, perhaps because women of both races are generally excluded from the job ladder. Note that although women have higher unemployment rates than men, as reported in the household survey, they have fewer weeks of unemployment per year. The unemployment rate in a group is, roughly speaking, the ratio of weeks of unemployment to weeks in the labor force, and women tend to spend substantially fewer weeks in the labor force than men.

Economists are occasionally tempted to speculate about another source of unemployment: For many people only low-paying, unpleasant jobs are available, either because of lack of skills or because of discriminatory exclusion. If they have income from sources other than their own work, they might work only part time, or more likely, part of the year, and enjoy leisure (which is cheap for them) the rest of the time. Moving in and out of the labor force would cause them to be recorded as unemployed frequently. Further, a person who feels guilty about not working might report himself

as unemployed even though he was not actually interested in taking the kind of job he could get. Both of these kinds of unemployment are voluntary in that they are different from the unemployment suffered by a person who is simply unable to find a job despite serious effort. One implication of this argument seems to be that unemployment ought to be positively associated with income from sources other than an individual's own work. In the regressions presented in the appendix and discussed above, I have controlled for income as well as wages, using a comprehensive measure of income that includes the nonwage income of the family and estimates of the wage income of other members of the family. It also includes the value of the individual's own time, but this does not affect the interpretation, since his wage is included separately. Income does not include the individual's actual wage income, of course, since that depends on his amount of unemployment. The income effects in all four regressions are quite small, and generally have signs that are the opposite of those predicted by the theory just mentioned. If anything, individuals in a given wage group tend to have more unemployment if their families are poor. There is no evidence whatever in favor of the hypothesis that unemployment is voluntary in the sense defined above.

Earlier sections of the paper have suggested how these data on individuals at a single point in time ought to be interpreted. They show who is likely to become unemployed for a spell one or more times during a year, not who is likely to remain permanently out of a job. Blacks and women seem to be excluded from work that offers an incentive to stay with a job permanently, and spend much larger fractions of their time in the labor force looking for new jobs than do white males. Within each group, the lower-paid members spend many more weeks looking for work than do the higher-paid ones. Finally, even with the wage level held constant, higher income seems to reduce weeks of unemployment.

APPENDIX

A Study of Weeks of Unemployment in 1966

THE DATA OF THIS STUDY are somewhat different from those in the monthly household survey, and probably suffer from all of the difficulties of the household survey and from some of their own as well. They are taken from the Survey of Economic Opportunity (SEO) for 1967, a body of data collected by the U.S. Bureau of the Census using roughly the same methods that it employs in the monthly survey. The questions about unemployment referred not to the status of the adults in the family at the time of the survey (spring 1967), but rather to their experience throughout the previous year, 1966. The respondent was asked, "How many different weeks was _____ looking for work or on layoff from a job?" The definition of looking for work is much less strict than that used in the household survey. As stated in the SEO codebook: "The interviewer was told to accept the answer of the respondent if he says a person was looking for work. If the respondent is in doubt about what the phrase 'looking for work' means, the interviewer was to use this explanation—a person is 'looking for work' if he is trying to get work or trying to establish a business or profession . . . 'Layoff' includes both temporary and indefinite layoff."[1] The data from the extended household survey suggest that the use of this relaxed definition does not tend to classify a great many people as unemployed who would otherwise be classified as not in the labor force. A more serious deficiency of this body of data arises from its retrospective nature. If the respondent has difficulty reporting the current status of the members of his or her household for the monthly survey, surely the difficulties are compounded many times in reporting on their status up to fifteen months earlier. To the extent that errors of perception and memory are random and uncorrelated with the determinants of unemployment, the results are not biased by the errors; they are only made less precise. But there is every reason to believe that the errors are systematic and the empirical results should always be

1. "1967 Survey of Economic Opportunity Codebook" (Office of Economic Opportunity, no date; processed), pp. 191–92.

interpreted with this in mind. In particular, comparisons between men and women are rather dangerous.

The purpose of this study is to obtain averages of unemployment levels for various demographic and economic groups. Averages for groups in one classification (for example, various wage groups) need to be adjusted for variations in other determinants of unemployment. Simple tabulation of averages does not allow for this adjustment; for example, classification by wage groups alone would understate the magnitude of the pure wage effect because high-wage workers tend to live in high-wage cities, where unemployment is higher. Cross-tabulation by all classifications simultaneously is infeasible because of the large number of groups. I have therefore adopted the method of regression on dummy variables to estimate the pure averages within each classification. The adjustment for the association between wages and cities, for example, has the following character: All cities have the same pattern of unemployment by wage groups, but each city has its own overall level of unemployment. Equivalently, one can say that all wage groups have the same pattern of unemployment by city, but each wage group has its own overall level.

The definitions used in the various classifications are precisely the same as those in the author's study of hours of work,[2] which the reader should consult for additional information. In brief, the characteristics are defined in the following way:

1. Race
   a. White, including chicanos and Puerto Ricans.
   b. Black. Other nonwhites, mainly Orientals, were excluded.

2. Sex
   a. Male.
   b. Female.

3. Position in family
   a. Head or spouse of head, spouse present.
   b. Head, spouse absent. Only women were included in this classification; a small number of male heads without wives were excluded.
   c. Single individual.
   d. Relative, living in a family but not the head. This includes sons,

2. Hall, "Wages, Income, and Hours of Work."

daughters, parents (when not the heads), aunts, uncles, and so forth.

4. Age
   a. 14 through 19. Since individuals who were in school all or part of the year were excluded, this group consists mainly of 18- and 19-year-olds.
   b. 20 through 59.
   c. 60 and over.

5. Children in the family
   a. None.
   b. Preschool age only (6 or younger in March 1967).
   c. School age only (7 through 13).
   d. Both.

6. Income. For each family, a comprehensive measure of income was calculated in the following way: (a) Nonlabor income was estimated as the sum of reported unearned income and the imputed income on the equity value of durable wealth; (b) the value of the time of each member of the family was calculated as the product of the number of hours available to be divided between work of all kinds and leisure (taken as 2,000 hours per year for most individuals) and his wage rate (imputed by the method described below); (c) the sum of these components was adjusted for the influence of the federal income tax. The resulting measure of income, called *whole income*, was classified in the following way:
   a. $0 to $3,000 per adult per year.
   b. $3,000 to $3,750.
   c. $3,750 to $4,500.
   d. $4,500 to $5,500.
   e. $5,500 or more.

7. Hourly wage. For each individual, whether working or not, a wage is imputed on the basis of his personal characteristics. The imputation is derived from a first-stage regression in which observed hourly earnings in the week before the survey is the left-hand variable. The imputed wage per hour was adjusted for the marginal income tax paid by the individual, and classified as follows:
   a. $0.00 to $1.50.
   b. $1.50 to $1.75.

c. $1.75 to $2.00.
d. $2.00 to $2.50.
e. $2.50 to $3.00.
f. $3.00 and above.

8. Location. Twelve large metropolitan areas are identified explicitly in the SEO. Each is labeled by the name of the largest city it contains, but the area includes the entire Standard Metropolitan Statistical Area (SMSA). The areas are:
   a. Baltimore.
   b. Chicago.
   c. Cleveland.
   d. Detroit.
   e. Houston.
   f. Los Angeles.
   g. New York.
   h. Philadelphia.
   i. Pittsburgh.
   j. St. Louis.
   k. San Francisco.
   l. Washington, D.C.

Separate regressions were computed for the four race-sex groups. The results are presented in Table A-1.

Table A-1. Determinants of Weeks of Unemployment in 1966, Regression Results

	Men		*Women*	
Characteristic and value	*White*	*Black*	*White*	*Black*
Constant	2.95	2.65	1.25	0.96
	(0.41)	(0.70)	(0.24)	(0.57)
Position in family				
Head or spouse of head	0	0	0	0
	—	—	—	—
Single	1.63	1.12	0.61	1.17
	(0.46)	(0.70)	(0.22)	(0.52)
Relative	0.02	2.71	0.29	1.55
	(0.46)	(0.68)	(0.24)	(0.48)
Head without spouse	—	—	0.08	0.32
	—	—	(0.30)	(0.51)

Table A-1 (*continued*)

Characteristic and value	*Men*		*Women*	
	White	*Black*	*White*	*Black*
Age				
14–19 years	1.30	−4.65	0.55	1.85
	(0.83)	(1.10)	(0.42)	(0.68)
20–59 years	0	0	0	0
	—	—	—	—
60 years and over	−0.94	−4.29	−1.09	−1.77
	(0.37)	(0.71)	(0.22)	(0.51)
Children				
None	0	0	0	0
	—	—	—	—
Preschool only	−0.16	−0.35	−0.57	0.65
	(0.35)	(0.60)	(0.21)	(0.48)
School age only	−0.96	0.06	−0.30	0.16
	(0.36)	(0.61)	(0.21)	(0.47)
Both preschool and school age	0.02	0.54	−0.48	−0.50
	(0.38)	(0.58)	(0.23)	(0.48)
Income in dollars				
0–3,000	1.24	−0.12	0.08	0.48
	(0.46)	(0.58)	(0.26)	(0.45)
3,000–3,750	−0.24	−0.43	0.03	0.94
	(0.36)	(0.53)	(0.20)	(0.43)
3,750–4,500	0	0	0	0
	—	—	—	—
4,500–5,500	0.20	−0.25	0.08	−0.61
	(0.33)	(0.65)	(0.18)	(0.63)
5,500 and above	−0.50	−0.39	−0.07	−1.53
	(0.38)	(0.91)	(0.91)	(1.04)
Wage in dollars per hour				
0–1.50	1.26	6.74	0	0
	(0.84)	(1.13)	—	—
1.50–1.75	−0.16	5.63	−0.24	0.33
	(0.64)	(0.82)	(0.20)	(0.39)
1.75–2.00	−0.18	2.15	−0.29	0.62
	(0.52)	(0.60)	(0.21)	(0.57)
2.00–2.50	0	0	−0.47	0.17
	—	—	(0.25)	(0.82)
2.50–3.00	−1.03	−2.70	−0.39	−0.70
	(0.34)	(0.54)	(0.38)	(1.07)
3.00 and above	−1.61	−3.71	−1.32	−0.44
	(0.36)	(0.85)	(0.69)	(1.43)

Table A-1 (*continued*)

Characteristic and value	Men		Women	
	White	Black	White	Black
City				
Baltimore	−1.25	0.42	−0.58	−0.75
	(0.71)	(0.79)	(0.39)	(0.63)
Chicago	−1.70	−0.40	−0.11	−0.37
	(0.43)	(0.74)	(0.25)	(0.58)
Cleveland	−1.37	0.52	−0.29	1.56
	(0.70)	(1.10)	(0.42)	(0.95)
Detroit	−0.14	2.82	−0.17	1.35
	(0.49)	(0.79)	(0.28)	(0.60)
Houston	−0.89	−2.70	−0.44	−0.38
	(0.76)	(0.91)	(0.45)	(0.74)
Los Angeles	0.32	3.77	0.29	1.21
	(0.35)	(0.79)	(0.21)	(0.60)
New York	0	0	0	0
	—	—	—	—
Philadelphia	−1.08	0.21	−0.22	0.51
	(0.46)	(0.82)	(0.27)	(0.64)
Pittsburgh	−0.20	1.81	0.27	1.76
	(0.62)	(1.87)	(0.36)	(1.59)
St. Louis	−0.31	−0.46	−0.25	3.21
	(0.72)	(1.10)	(0.38)	(0.87)
San Francisco	0.69	5.39	0.43	1.35
	(0.43)	(0.98)	(0.25)	(0.80)
Washington, D.C.	−0.95	−0.44	−0.52	−0.30
	(0.56)	(0.70)	(0.32)	(0.52)
Standard error (in weeks)	6.63	9.13	4.18	7.88
Number of observations	3,433	2,361	4,042	2,721

Source: Based on data from Survey of Economic Opportunity, conducted by U.S. Bureau of the Census, spring 1967. See appendix text for detailed information on the characteristics. The figures in parentheses are the standard errors.

Comments and Discussion

R. A. Gordon: Robert Hall's paper is an important contribution to our understanding of why unemployment is as high as it is in the United States when we are close to full employment by conventional standards. His main conclusions seem to be that unemployment in the United States is relatively high at full employment not because large numbers of people remain continuously unemployed, but because large fractions of some groups in the labor force experience abnormally frequent changes of jobs with frequent periods of unemployment between jobs.

The relatively underprivileged groups, in his results, are blacks of both sexes and of virtually all ages; and white women of ages 25 and over. In general, I agree with this conclusion, but it is not the whole story. Let me focus on Table 5, "Comparison of Hypothetical Normal Rates of Unemployment and Actual Rates." The assumptions in the calculations are generally reasonable, but men and women should have been differentiated. Women over 25, the group that has the unfavorable differential, are usually married, and they move frequently in and out of the labor force. Higher turnover rates would be expected for this group. The second point I would make is that this part of the study does not deal with the effect of differential unemployment on rates of participation in the labor force. Thus the participation rate in the prime-age group of males is significantly lower for blacks than for whites. Furthermore, there is significant nonreporting among black males. These elements constitute a kind of hidden unemployment.

The third point is that nothing is said about the time dimensions of the problem. As is pointed out in George Perry's paper, changes in the composition of the labor force over the last fifteen or twenty years make a 4 percent unemployment rate much more difficult to achieve and likely to

generate greater inflationary consequences than was true formerly. Dispersion measures of unemployment rates by age and sex, like the ones Perry uses, show a cyclical pattern, but more important they reveal a dramatic rise in dispersion for any given overall unemployment rate over the last ten years or so. What may have been normal in 1950 or 1955 is probably not normal today.

Hall's paper does not take account of experience abroad. International comparisons highlight the extent to which frictional unemployment in the narrow sense—"normal" unemployment in Hall's term—is significantly higher in the United States than in most other countries. In Germany, a program called "Schlechtwettergeld" has reduced the seasonal unemployment in the construction trades that accounts for a significant component of frictional unemployment in the United States. Hall uses very high rates as normal frictional unemployment for youth. These rates do not occur in Europe, where young people coming out of school move fairly smoothly into either apprenticeship programs or regular jobs. The question of what frictional unemployment rate is normal is itself something that needs to be investigated.

The hypothetical normal unemployment rates by age, sex, and race in Hall's calculation imply an overall unemployment rate of 3.3 percent in 1969, while the actual unemployment rate was 3.5 percent. Structural unemployment was not merely the difference of two-tenths of a percent, because the white prime-age male rate has been driven down below normal, creating job scarcities and tight markets. Thus 1969 was, in a way, the worst of both possible worlds—high structural unemployment or nonnecessary frictional unemployment for many groups at the same time that the labor market situation for prime-age white males was so tight as to drive up wages very rapidly.

The section on the differences among cities is interesting. The same permanence in unemployment differentials, however, also exists among other dimensions of the labor force—age, sex, color, as well as occupation, industry, and marital status. Maintained geographical differentials should therefore not be surprising. Although Hall may disagree, I see considerable similarity between his conclusions and the dual labor market hypothesis that has been advanced by Peter B. Doeringer and others. It is not essential to the dual labor market hypothesis that unemployment be related to income, as Hall implies in the final section of his paper. Rather, the unattractiveness of available jobs for blacks presents a trade-off between leisure and

work for blacks that is different from that for white workers. The dual labor market hypothesis is that through discriminatory practices, some significant part of our labor force is deprived of an opportunity to try for attractive jobs that others can get rather easily. The result is that the deprived people leave the unattractive jobs frequently because they are unattractive. Instead of the standard notion of a queue, with blacks, for example, at the end of the queue, there are instead two lines. Whites get into one while blacks must get into the other. The black line is constantly re-forming, as blacks take unskilled jobs at a low wage rate, quit, are on the street awhile, come back when they need more money, and then quit again.

Charles Holt: I would like to reiterate Aaron Gordon's commendatory remarks. Hall has pulled together, with analytical and empirical insight, a lot of information that has previously been given too little attention by macroeconomists.

Hall's work is really more general than is suggested by his characterization of it as relevant only to a situation at full employment. In Woytinsky's analysis of unemployment data in the thirties, when the duration of unemployment was running up to five years, the same exponential shape of the distribution of duration of unemployment applied in those extreme situations. Far from being a rather specialized analysis, Hall's way of looking at things is useful over a broad range of unemployment rates. Nor should it be thought of as describing the economy at an equilibrium level of unemployment. As Hall notes, the level of unemployment we think of as full employment is not very critical in view of the amount of inflation the nation is willing to accept. It is not critical because, for a fairly wide range of assumptions about the tolerable rates of inflation, there is a corresponding fairly narrow range of unemployment rates. And the burden of the analysis is to focus on the fact that unemployment rates are very different for various demographic groups, whatever the aggregate unemployment rate is. A 3.8 percent unemployment target is associated with a 25 percent unemployment rate for black teenagers.

The basic analysis finds that the duration of an unemployment spell for an individual is not very long. Also, the data reveal that unemployment rates are drastically different for different groups. Together, these findings imply that differences in group unemployment rates should be explained by differences in their turnover rates—movements in and out of unemploy-

ment. Work that Ralph Smith and I have been doing on the black-white unemployment rate shows that this is strikingly the case. The quit rate for blacks is roughly double that for whites; the layoff rate for blacks is double that of whites. Together these account for most of the unemployment differential.

The two components of turnover, voluntary quits and involuntary layoffs, respond in opposite directions to cyclical fluctuations. When unemployment falls, the quit rate rises, the layoff rate falls, and the turnover rate changes very little. When unemployment rises, the opposite happens. Thus the flow through the labor market over the cycle is roughly constant. The cyclical fluctuation in the level of unemployment therefore must be found in cyclical variations in the duration of unemployment. This in turn is attributable to changes in the stock of job vacancies.

Hall found relatively stable patterns of unemployment among cities. Over time, the tendency was for the unemployment rates in different cities to change by roughly the same proportions. Cities that had low unemployment rates had a decline of roughly the same proportion as cities that had high unemployment rates. If Hall had had industry or occupational data on unemployment, and had held these constant while comparing cities as he held constant the demographic composition of the work force, I think he would have been able to explain a large part of the differences among cities. Nevertheless, the persistent patterns he finds are not surprising.

This kind of persistent differential arises within demographic, occupational, or other classifications of the labor force as well. These are equilibrium relationships, not short-term deviations from equilibrium relationships. Hall found that high-unemployment cities tended to be high-wage cities. There are two factors influencing workers searching for jobs—the average wage rate and the probability of finding a job. It is not surprising to find a whole locus of points that are equally attractive, in terms of inducing mobility. Cities with high wages and high unemployment are as good as cities with low wages and low unemployment. The relationship between unemployment and wage rates fits better for males than for females because the prime wage earner is usually the husband. Where the husband goes for a job dominates where the family lives. The secondary workers in the family, the wives, go into whatever labor market they live in and do the best they can. Finding that stable line between the level of wages and level of unemployment does not, however, suggest that there is anything wrong with the adjustment processes of mobility. It simply means that when a

city deviates from that line there are corrective processes that tend to bring it back to the line. The equilibrium is a line rather than a point.

Hall is properly critical of those who would use the search theory concepts to minimize the unemployment problem. The search theory now ought to be characterized as a search-turnover theory. If we had neither a search problem nor a turnover problem, then indeed we would have no unemployment problem.

Market segmentation has important implications for this turnover phenomenon. On one hand, there is an overall labor market that makes all unemployment rates rise and fall together, indicating the interaction of individual labor markets. On the other hand, very large differentials exist among the various demographic groups, indicating that there are very real barriers to the search or recruitment process, and differences in both the quality of the jobs and the rate of turnover persist. Studies by Robert E. Lipsey and G. C. Archibald, and some I have done, try to stress segmentation of the labor market, but the theory is not fully developed. The model of a compartmentalized labor market is more fully developed than the segmented model. More research needs to be done on the latter. But the significance of segmenting and the implications of its impact on different groups in the economy have been recognized by search theorists, if not by all those who use this way to interpret unemployment developments.

Hall refers to an irreducible minimum of frictional unemployment. There is no irreducible minimum. Aggregate demand can lower any level of unemployment if the amount of inflation that will occur is ignored. The idea of a frictional process that puts a fixed and rigid irreducible minimum on unemployment is not the right model, though a limit on the inflation rate we will tolerate does create a minimum for policy purposes.

Limitations to the normal upgrading process for various demographic groups are stressed heavily in this paper. Guthrie has done a study that relates the speed of the upgrading process for blacks to the level of unemployment. He predicts that if past rates of upgrading are sustained and if the unemployment rate is maintained at 3½ percent, it will take twenty-five years before blacks and whites have essentially equal incomes. If the unemployment rate is maintained at 4½ percent, the time to equality is doubled.[1] Pavis has done work that indicates that eliminating the unem-

1. Harold W. Guthrie, "The Prospect of Equality of Incomes between White and Black Families under Varying Rates of Unemployment," *Journal of Human Resources*, Vol. 5 (Fall 1970), pp. 431–46.

ployment rate differential between blacks and whites would raise black incomes by approximately $1½ billion. If, in addition, the average wage level of blacks is raised to that of whites, black income would rise by approximately $14 billion.[2] So the upgrading process in labor markets is terribly important and it interacts with the unemployment-inflation problem. A relatively high level of vacancies speeds upgrading and lowers unemployment, but increases inflation.

One thing that is a bit surprising is Hall's minor reference to vacancies, a variable that is jointly determined and is the link to the inflationary process. In addition, the level of vacancies influences turnover rates and duration of unemployment. Barely mentioning vacancies is somewhat like analyzing the quantity of money without considering the interest rate.

In conclusion I would like to say again that Hall's paper is a very useful contribution to our understanding of the unemployment problem, an understanding that is essential for our balancing of inflation against unemployment.

Robert Hall: In answer to Gordon's remarks, I did not separate the men from the women in constructing a theoretical unemployment rate because that would imply a very basic assumption that the pattern of the way women are treated is somehow right. I am not convinced of that. There is no presumption that it ought to be women who take care of children. On another point, there is a sense in which permanent geographical differentials are a different matter from permanent age and race differentials. We know that blacks are treated worse in labor markets than whites. But there is no equivalent sense in which Chicago is very different from Los Angeles. Yet the difference between Chicago and Los Angeles certainly shows up in the data, and that is why I chose to look at the geographical dimension.

Turning to some of Holt's remarks, I could make an adjustment for industry composition to see if it explains some of the city differences in unemployment. I am a little hesitant to do that in a mechanical way, such as by putting in industry dummies. If this washed out the city differences—and I am not convinced it would—I would want to go deeper into the source of the industry differentials.

2. Rhona L. Pavis, "Towards the Equalization of Income and Occupational Distribution of Blacks and Whites and Males and Females," Working Papers 113-27 (Urban Institute, Nov. 28, 1969; processed).

On the question of whether there is an irreducible minimum to the unemployment rate, I believe Holt's thinking is based on the assumption that the quit rate plus the layoff rate is constant. In a really tight labor market, the quit rate could rise so much that even though the layoff rate was virtually zero, unemployment might start going up again. But I am not asserting that there is an irreducible minimum; it is not something I go into here.

General Discussion

Franco Modigliani felt that there was an irreducible minimum rate of employment, because regardless of how many vacancies there are, it takes some time for a person to find a job. William Fellner speculated that the frequency of unemployment might increase initially for disadvantaged groups who are becoming less disadvantaged, because the relations between the employees and employers are more experimental as they are tried in new kinds of jobs. This would have optimistic implications for the future as the transition period ended. William Poole pointed out that the lifetime wage profile Hall showed, which was quite flat for the disadvantaged, was a cross section at a moment of time. He thought that this might reflect progress being made by these disadvantaged groups rather than a lack of progression in earnings over an individual's lifetime. Older people are caught in low-wage, dead-end jobs as a result of the more severe discrimination that existed when they started work, while younger workers are getting better jobs and will show progress during their lifetimes. For each type of skill, there could be a steady progression of wages through life, but at the present time, the distribution of people in occupations is very different for various age groups among the disadvantaged. Thomas Juster pointed out that there is bias in the kind of follow-up survey Hall reports on. The survey interviewed individuals who had been listed as out of the labor force. The bias comes because those who had been listed as unemployed were not resurveyed to discover how many should have been listed as out of the labor force. Juster also objected to using the same hypothetical unemployment rate for females and males if the purpose is to judge whether women are discriminated against. Many women are out of the labor force when their children are young. When they return to the labor force they are like

new entrants in terms of their treatment by typical employers and should be given the hypothetical values assigned to new entrants. The distribution by age of those looking for first jobs and subsequent jobs is clearly affected by schooling status. If the hypothetical unemployment rate took account of educational status, better patterns by age, race, and sex, could be developed. If discrimination against blacks and women still showed up, Juster would find the results that much more persuasive.

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Prospects for Shifting the Phillips Curve through Manpower Policy

THE CONTEMPORARY PHILLIPS CURVE measuring the tradeoff between inflation and unemployment in the United States is so unfavorable that many economists and most policy makers have reached the conclusion that no combination of inflation and unemployment permitted by the curve is acceptable. The recent policy of the United States has responded to this problem mainly through the imposition of controls on prices and wages. Few economists regard these controls as a satisfactory solution in the long run to the problem of achieving low rates of unemployment at tolerable levels of inflation. There is substantial agreement in the profession that the fundamental cause of the unfavorable Phillips curve is in the failure of labor markets to operate properly. My purpose in this paper is to examine critically the prospects for a long-run attack on inflation and unemployment through treatment of the fundamental causes of the problem. Policies with this goal that operate directly in the labor market are known collectively as manpower policy.

Economists are far from agreement about the precise reasons for the failure of labor markets to perform adequately. In my earlier paper, "Why Is the Unemployment Rate So High at Full Employment?"[1] I reviewed

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1. *Brookings Papers on Economic Activity* (3:1970), pp. 369–402.

alternative explanations of the unfavorable position of the Phillips curve, looking at the problem as one of explaining the high level of unemployment that remains even when there is sufficient aggregate demand to raise prices at the rate of 3 or 4 percent per year. Any discussion about unemployment must carry a reminder of the way data on unemployment are gathered. The official statistics record as unemployed those who are *looking* for work, not necessarily those who are *out* of work. Consequently, it can be a serious mistake to think of unemployment as the difference between supply and demand in a particular labor market. I will return to this point.

One of the oldest theories relating to the Phillips curve involves the notion of sectoral disequilibrium. Of the many regional and occupational labor markets in the economy, some will have excess supply at any point in time because of continual changes in the pattern of supply and demand in the markets. Workers are inhibited from moving from one market to another by the cost of moving and by lack of information about jobs in other sectors. Even so, the theory requires that equilibration take place as time passes; it explains the chronic existence of unemployment by hypothesizing continuing random shocks in labor markets. My examination of the empirical evidence showed that there are important differences in unemployment rates by geographic location, but that these differences are stable over time, even during a period of large increases in aggregate demand and substantial changes in the composition of demand. In my earlier paper I went on to discuss an alternative explanation of the geographical pattern of unemployment. In any event, no convincing empirical case can be made that transitory disequilibrium accounts for a very large fraction of the unemployment that is observed at full employment.

A second explanation of the Phillips curve emphasizes the role of turnover in the labor force in maintaining the pool of unemployed workers. It also emphasizes that the rational worker will devote a reasonable period of time to the process of searching for a new job. One might characterize this as a rigorous theoretical development of the traditional notion of frictional unemployment. Given the high levels of turnover in the economy, the modern search-turnover theory seems to be supported by the data: High rates of unemployment are not caused by the permanent inability of a fraction of the labor force to find jobs. Rather, high rates are associated with the existence of frequent spells of unemployment. Again, I will return to this point. The major limitation of the search-turnover theory is its failure to provide an explanation of the high rates of turnover found in the U.S.

economy. In this sense it cannot claim to provide a complete account of the problems of labor markets, but it does clarify the nature of the problems. In particular, it makes clear that the traditional theory of structural unemployment needs reformulation: The problem of disadvantaged workers, relative to other members of the labor force, is that they are unable to find stable jobs, not that they are unable to find work at all.

Two bodies of thought seek to explain the observation that certain groups in the labor force have pathologically high rates of unemployment. The first emphasizes considerations on the supply side of the market. According to this view, disadvantaged workers have trouble finding and holding jobs because they lack the background and skills for the jobs available. The second emphasizes characteristics of the demand for labor. It holds that the economy tends to offer too many bad jobs and too few good jobs with high wages and good working conditions, and to systematically exclude disadvantaged workers from good jobs. Neither of these views specifies the link between lack of skills or lack of good jobs, on the one hand, and, on the other, turnover, which I have already indicated is the main source of high unemployment. Why do disadvantaged workers lose or leave their jobs so soon after taking them, granted that they are relatively poor jobs? This remains a central unanswered question in the theory of unemployment.

I distinguish three kinds of manpower policies relating to the diagnoses just discussed. The first attempts to make the labor market function more effectively with the existing patterns of supply and demand. Programs of this kind involve placement activities and counseling of workers looking for jobs and of employers looking for workers. They may also involve schemes for increasing the mobility of workers. A comprehensive program of this sort has just been proposed by Charles Holt, Duncan MacRae, Stuart Schweitzer, and Ralph Smith at the Urban Institute. The first major section of my paper is devoted to a critical review of their program and the theory that underlies it.

The second kind of manpower program attempts to change the pattern of the supply of labor. Federal policy of the past decade has generally taken this form, emphasizing the training and upgrading of disadvantaged workers. Discussion of this kind of policy occupies the second section of the paper.

The third kind of policy tries to influence the composition of the demand for labor, especially by opening up good jobs for disadvantaged workers.

Federal manpower programs seem to have shifted in this direction, but I will argue that most of the shift is illusory. A close examination of the largest new program uncovers few differences from the traditional training programs that it was intended to replace. I go on to discuss small programs that seem to have been successful in putting disadvantaged workers in good jobs, but I am pessimistic about the prospects for a large-scale federal program of this kind.

Throughout the paper, I attempt to maintain a consistent approach to the measurement of the effect of manpower policies on the position of the Phillips curve. The problem is to distinguish between movements along the curve, which will be induced by any increase in the demand for labor, and true shifts of the curve. Only the latter permit lower rates of unemployment at a given rate of inflation. I make an effort to present estimates of the impacts of alternative policies that are standardized for the inflationary effects of the policies. I do this by choosing a reference level of unemployment, 4.5 percent, and asking what new level of unemployment after the implementation of a particular policy causes the same level of inflation that would exist at the reference level of unemployment in the absence of the policy.

The Manpower Policy Recommended by Holt and His Colleagues

Any discussion of the aggregate impact of manpower policy must necessarily pay close attention to the recent papers of Charles C. Holt and his colleagues at the Urban Institute, including the report that follows in this issue of *Brookings Papers on Economic Activity*.[2] Among economists interested in policies for shifting the Phillips curve, only Holt and his group at the Urban Institute have formulated a consistent theoretical view of the detailed operation of labor markets, applied that theory to make recommendations for manpower policy, and attempted to estimate the aggregate costs and effects of the policies.

The theory underlying the work of Holt and his group can be summarized briefly as follows: There are many labor markets in the economy, distin-

2. Charles C. Holt, C. Duncan MacRae, Stuart O. Schweitzer, and Ralph E. Smith, *The Unemployment-Inflation Dilemma: A Manpower Solution* (Urban Institute, 1971); "Manpower Programs To Reduce Inflation and Unemployment: Manpower Lyrics for Macro Music," Institute Paper 350-28 (Urban Institute, 1971; processed); and "Manpower Proposals for Phase III," this volume, pp. 000–00.

guished by location, occupation, and characteristics of workers. In each market, workers continually flow into unemployment because of quits or layoffs or because of the entrance of new workers. Unemployed workers must spend time searching for jobs, gathering information about openings, wages, and working conditions, or waiting for jobs to become available. Even when the market is in stochastic equilibrium, in the sense that there is no unexpected upward or downward pressure on the wage level, the natural turnover in the labor force will cause a positive unemployment rate. When unemployment falls below this level and employers find it harder to fill vacancies, the wage rises. Conversely, when unemployment rises above the equilibrium level, wages fall. However, the process is asymmetric: The inflation caused by 1 percentage point of unemployment below the equilibrium level is greater in degree than the deflation caused by 1 percentage point of unemployment above the equilibrium level. In the aggregate, the rate of change of the wage level averaged over all markets depends not only on the average unemployment rate but also on the dispersion of rates among the markets. For the same average level of unemployment, more inflation develops if there is substantial variance in the unemployment rates of the various markets than if they all had the same rate.

In "Manpower Programs," Holt and his colleagues propose four kinds of policies:

1. Those that improve both the speed of matching workers and jobs and the quality of the matches. For a given flow of workers into unemployment, these policies will decrease the unemployment rate by shortening unemployment for each individual. Further, better matches should last longer and therefore reduce the flow into unemployment.

2. Those that reduce turnover in groups where it is particularly high, especially teenagers.

3. Those that increase the supply of workers in markets where labor shortages exist, either by shifting them from other markets or by bringing them into the labor force. This reduces the dispersion of unemployment and allows a lower average unemployment rate for any given rate of inflation.

4. Those that break down institutional barriers between labor markets—union restrictions on entry, restrictive occupational licensing, and so forth. These barriers increase unemployment by increasing the dispersion of unemployment among occupations and reducing the efficiency of search.

The principal theme of the recommendations Holt and his colleagues

make is that the existing manpower programs of the federal government are basically on the right track, but that they should be expanded severalfold and devoted less exclusively to serving disadvantaged workers. Holt's group emphasizes the principle that improvements in the efficiency of labor markets, especially those that relieve shortages, yield an *indirect* benefit for disadvantaged workers by permitting an overall tightening of labor markets through monetary and fiscal policy without inflation. Although this principle is recognized in discussions of the macroeconomic theory of inflation, it is often overlooked in evaluating the effects of manpower programs.

IMPROVING THE SPEED AND QUALITY OF MATCHING

The first part of the program proposed by Holt and his associates involves a very substantial increase in the most traditional and uncontroversial activity of the federal government in labor markets, the Employment Service.

They propose a tripling in the number of counselors and interviewers in the Employment Service and their upgrading through a 25 percent salary increase. These proposals would raise the cost of the service from its present level of about $600 million to $2.4 billion. The overall effects of this increase, according to their estimates, would be a decrease of 5 percent in the average time an unemployed worker requires to find a job and another 5 percent decrease in the flow of workers into unemployment through quits and layoffs. Centralization of information about job openings through computerized matching and the increase in the staff of the Employment Service would speed up the process of finding jobs, and improved counseling of workers and employers would reduce the frequency of quits and layoffs at a given level of aggregate demand.

It is hard to quarrel with a figure as low as 5 percent of anything, but the two figures taken together imply a not insubstantial reduction of 0.5 point—to 4.0 percent in their example—in the overall unemployment rate. In the present case I am seriously concerned that their estimates of the effects of their programs on the unemployment rate err on the optimistic side. Even within the general view of the operation of labor markets held by the authors (I will discuss my objection to this view presently), there is no theoretical presumption that the policies recommended will reduce rather than increase the unemployment rate. Their goals of speeding up placements and reducing quits and layoffs are in direct conflict with one another: The easier

it is to find a new job the more likely is a worker to quit, and the easier it is to fill a position subsequently the more likely is an employer to lay a worker off. The authors admit this candidly, but nonetheless they project a decrease in quits and layoffs as a result of their policy.

Students of the labor market agree that if workers could be better matched to jobs, the unemployment rate would be lower. At unemployment rates under 5 percent, a good portion of those unemployed are apparently moving from one job they don't like to another, or are looking for the least unsatisfactory job available after having been out of the labor force.[3] The question at hand is whether very much can be done to improve the quality of matching jobs and workers through expansion and reorganization of the Employment Service. Since improved matching not only is supposed to bring about a 5 percent reduction in turnover but also must counteract the tendency of faster placement to stimulate turnover, Holt's program puts a great deal of faith in the ability of counselors and computers to improve and speed the allocation of workers to jobs. Quite apart from the obstacles to reorganizing and redirecting as firmly entrenched a bureaucracy as the Employment Service,[4] there are serious doubts about the usefulness of a substantial expansion of centralized placement services. The benefits of better matching are chiefly private and accrue to the individual worker in the form of high wages, a more satisfying job, and less unemployment, and to the employer in the form of reduced costs of turnover.[5] If large as yet unrealized returns could be made by listing jobs and counseling workers, profits would be available to private entrepreneurs in the placement business. The fact that the existing placement industry is so small and serves

3. See Hall, "Why Is the Unemployment Rate So High?" pp. 388–96.

4. A complete and pessimistic account is available in Stanley H. Ruttenberg and Jocelyn Gutchess, *The Federal-State Employment Service* (Johns Hopkins Press, 1970).

5. This is not to say that no externalities operate in the labor market. By quitting, the worker can impose a cost on his employer beyond what he bears himself and similarly the employer can impose a cost on the employee by firing him. But these externalities are local and can be internalized by a suitable arrangement between employer and employee. This is one of the main themes of Peter B. Doeringer and Michael J. Piore, *Internal Labor Markets and Manpower Analysis* (Heath, 1971). In addition, there may be global externalities: Better placement might have a general social payoff in the form of reduced expenditures for police protection and the like. Only the latter is a convincing argument for public subsidy. Finally, the placement industry as conceived by Holt is a natural monopoly because it operates at increasing returns to scale, so any large placement effort should be at least regulated by the government. This does not affect the argument that the existence of private placement activities sharply limits the extent of possible unrealized benefits in placement programs.

only a few specialized markets suggests to an economist that in most markets little is to be gained from formal placement agencies. What is known about the behavior of individual workers confirms this suspicion: By and large, workers find jobs by consulting their friends and inquiring at factories and businesses, and have relatively little use for the Employment Service.[6] Holt and his associates interpret this as evidence that the Employment Service should be reformed, while I am suggesting that perhaps the whole idea of a central placement service is not a very useful one except in certain kinds of markets.

Why might this be so? In the first place, labor markets are often rather different from the model that the proponents of an expanded Employment Service have in mind. Only a fraction of the new jobs that become available in a given month are thrown open to the public in the way suggested by the advocates of increased placement efforts. Most employers fill jobs without recourse to the open market for one of three reasons: (1) they do not want to, (2) they are not allowed to, or (3) they do not need to.

Employers *choose* not to recruit from the open market because they already have much better information about a group of workers—their own employees—who, furthermore, have accumulated training and experience specific to the firm's activities. The internal labor market, where jobs are filled solely by promotion, is a pervasive characteristic of a good fraction of the economy, and represents a rational and efficient response to the technology of production.[7] Firms are *prevented* from recruiting in the open market by a wide variety of institutional and governmental restrictions. Perhaps the most important of these are union limitations on entry and government licensing. Finally, firms find it *unnecessary* to recruit in the open market when the jobs they offer pay more than is necessary to attract enough workers without active recruitment. If the personnel office already possesses a long waiting list, as is true in many industries except in periods of extremely tight labor markets, it is literally not worth the trouble of informing the Employment Service when a job opens up. A firm pays more than it must only under duress; without constraints on its wage policy, it would reduce wages until the waiting list shrank close to zero and would

6. See Harold L. Sheppard and A. Harvey Belitsky, *The Job Hunt* (Johns Hopkins Press, 1966), and Peter Doeringer (ed.), "Low Income Labor Markets and Urban Manpower Programs: A Critical Assessment," Joint Harvard-MIT report submitted to the Manpower Administration (reproduced by National Technical Information Service, 1969).

7. This view and its implications are fully developed in Doeringer and Piore, *Internal Labor Markets.*

take advantage of the then useful (and free) Employment Service. Labor unions and other powerful institutions have as one of their main purposes forcing firms and other employers to pay more than is necessary to attract labor. There is little the Employment Service can do to help these employers or to place unemployed workers in jobs with them.

Together, the three reasons for the failure to recruit from the open market cut off a large portion of the jobs in the economy from assistance by the Employment Service. Starting from data on internal and external labor markets presented by Doeringer and Piore, I have attempted to estimate in a very rough way the portion of total employment in markets to which the Employment Service might make a contribution. The classification appears in Table 1. Almost two-thirds of all employment is in markets where the Employment Service has little potential. Of these markets, those for military services, workers in craft unions, proprietors and self-employed family workers, and professionals presumably are noncontroversial. Public enterprises are included because of the strength of worker associations, especially among postal workers, industrial unions for the reason indicated above, and large enterprises because of the strength of internal labor markets. The

Table 1. Employment Markets, by Usefulness of U.S. Employment Service, 1965

Likelihood of usefulness of Employment Service and type of market	*Percent of total employment*
Employment Service likely to be useful	34.7
Institutions (hospitals, universities, museums, etc.)	2.9
Small enterprises	27.0
Farm laborers	1.5
Domestic workers	2.4
Odd job, service, and repair work	0.9
Employment Service unlikely to be useful	65.1
Military services	3.2
Public enterprises	11.8
Union workers in large enterprises	11.8
Nonunion workers under industrial agreements	1.3
Workers outside the bargaining unit in large enterprises	7.0
Large nonunion enterprises	7.0
Workers in craft unions	9.4
Proprietors and self-employed family workers	12.0
Self-employed professionals	1.6

Source: Peter B. Doeringer and Michael J. Piore, *Internal Labor Markets and Manpower Analysis* (Heath, 1971), Table 1, p. 42. Classification on the basis of the usefulness of the Employment Service was made by the author. The figures do not add to 100.0 because of rounding.

last is subject to qualification since not every employee of a large enterprise is on a promotion ladder, and some large enterprises fill entry-level jobs by active recruitment in the open market. However, large companies are often sufficiently well known that job hunters check directly with them, so that listing with the Employment Service would improve dissemination of information about their openings only very slightly.

It is small enterprises and their prospective employees that are the natural clients of the Employment Service. Since the service is already of considerable help to this market, a dramatic increase in its scale of operation would tend more to intensify its assistance in placing workers with small businesses and individuals than to extend its coverage of markets. Another trait of the Employment Service is apparent from Table 1. It cannot generally place workers in the good jobs in the economy. Pleasant working conditions, high wages, and chances for promotion are much more common in the second category than in the first. Even with a large expansion of the Employment Service, better matching of workers and jobs clearly means finding for each worker the least unsatisfactory of the poor jobs listed by the service. If, in reaction, the small faith workers have in the ability of the service to find them jobs fails to grow, the prospect for reducing unemployment by expanding the service is rather poorer than Holt and his colleagues have suggested.

Since Holt, MacRae, Schweitzer, and Smith have attempted to estimate the effect of their policies, I will do the same, but with their misgivings redoubled. For their proposed expansion of the Employment Service, my guess is that faster placement of unemployed workers in jobs in small enterprises would reduce the aggregate unemployment rate by 0.1 point. Further, I suspect that faster placement would stimulate turnover by about the same amount that improved matching would reduce it, so that the total effect of the program on unemployment would be 0.1 point.

PLACING TEENAGERS

The second part of the program of Holt's group is a direct attack on unemployment in the demographic group with much the highest unemployment rate, teenagers. The diagnosis underlying the program is, I think, the correct one: The problem of high unemployment among teenagers (at full employment) is not that they have trouble finding jobs but that they have trouble keeping them. The duration of their unemployment is low, but its

frequency is high. Holt believes that a major cause of this problem is that teenagers receive little preparation in school for work, and almost no information about the sorts of jobs available when they leave school. As a result, they move rapidly from one job to another, finding out in a rather expensive way what kind of work they like.

Holt and his colleagues propose that the educational system be modified to permit students in the ninth through twelfth grades to participate in federally supported work-study programs. They propose a federal expenditure of $1,000 per student to provide after-school and summer employment for a million high school students, and a large increase in vocational counseling for teenagers. They estimate that these policies would reduce unemployment among teenage students while they are attending school from 600,000 to 100,000, and would reduce turnover among teenagers who are not in school by about 17 percent. These figures represent reductions of 500,000 and 100,000 in the number of unemployed teenagers, and together would decrease the aggregate unemployment rate by 0.7 point.

The first of these estimates, however, appears to be inconsistent with one of the important conclusions of Holt's theory. Unemployment of teenagers is not simply the difference between the supply of labor they offer and the demand for it. If the program generated a net increase of 750,000 or even a million jobs for teenagers, unemployment would not shrink to zero. There are over 11 million youths aged 16, 17, and 18 at the moment. If a million of them were in a work-study program, there would surely be a level of turnover among the remaining 10 million not too different from what it is now. For example, teenagers intending to go to college would probably not be interested in the work-study program, yet they might very well look for a job after school and thus appear in the statistics as unemployed. At the very outside, unemployment of teenagers in school might be reduced by 100,000 by the work-study program. There are 15 million teenagers in grades 9–12, of whom 600,000, on the average, are looking for work when the overall unemployment rate is 4.5 percent. If the work-study program took teenagers at random, and if the rate of turnover and average duration of unemployment of those not enrolled remained the same, then unemployment would fall by 6.7 percent (1 million out of 15 million) of 600,000, or 40,000. If the program were successful in recruiting unemployment-prone teenagers, or if it tightened the market for teenagers and thus reduced the duration of unemployment, its effect might be somewhat larger. In the long run, relatively little tightening is likely to occur because as jobs become

easier to find, on the one hand, additional teenagers are likely to enter the labor force, and as teenage workers become harder to find, on the other hand, employers will begin recruiting in other markets.

The estimate of the reduction in unemployment of teenagers out of school suffers from many of the defects that compromise the estimate for the general expansion of the Employment Service. What is the prospect for such a large reduction in unemployment of teenagers through vocational counseling when the counselor can only identify the least unsatisfactory of a set of unattractive jobs? The element that seems to be missing is any discussion of the need to open up good jobs, especially for disadvantaged teenagers. In any case, the Urban Institute estimate of the impact of this program suffers from the technical defect that it is not standardized for its inflationary effect. Part of the reduction in unemployment they ascribe to the program is simply movement along the Phillips curve, not a shift in it. A more reasonable estimate of the effect of the proposed policies for teenagers on the overall unemployment rate might be 0.2 point after allowance for its inflationary effect. In spite of this, I think the proposal to emphasize work-study programs has much merit as an alternative to the existing system of classroom and vocational instruction in high schools.

REDISTRIBUTING THE LABOR FORCE

The third component of the proposal of Holt, MacRae, Schweitzer, and Smith is a set of programs for reducing the dispersion of unemployment rates among the many labor markets in the economy. They focus separately on two dimensions distinguishing the markets, occupation and geographical location. Three basic policies are suggested for reducing the occupational dispersion of unemployment: retraining current members of the labor force to qualify for jobs in markets where unemployment is lower than the average, restructuring jobs, and inducing the entry of women with children into labor markets where shortages exist. The first involves the creation of 1.1 million new training slots—half allotted to women—to teach workers to fill jobs in markets with shortages (70,000 such slots exist in the present training establishment). On the employers' side, they propose the addition of 4,000 industrial engineers and psychologists to the staff of the Employment Service to advise on methods for substituting workers in plentiful supply for those in short supply. Finally, they propose an annual subsidy of $1,300 per child for child care which, they project, will stimulate the entry

into the labor force of 1.37 million women with 2.75 million children. Child care would be available only to women qualified to be trained for jobs in tight markets; this qualification would be implemented by locating the child care center at the place of employment or by linking the subsidy to a woman's occupation.

Holt and his colleagues do not give a direct estimate of the effect on unemployment of their program for alleviating shortages by occupation. Instead, they make the remarkable, and to me untenable, assumption that their programs would totally eliminate dispersion in unemployment rates. To translate this into unemployment terms, they fit a simple Phillips curve in which the dispersion of unemployment as well as its average level appears, and calculate the amount by which the average level of unemployment could be reduced, assuming that inflation were constant, if dispersion were eliminated. The results of this calculation are impressive: Elimination of dispersion by occupation could reduce the average level of unemployment by 1.1 points, about a quarter of the 4.5 percent reference level for their calculations. I find this procedure defective in two respects. First, the analysis requires the crucial assumption that the intercept of the aggregate Phillips curve is unaffected by the redistribution of the labor force that they propose. That intercept is a weighted average of the intercepts of the Phillips curves for the various occupational markets, where the weights are the shares of total employment in each occupation. The weighted average will remain unchanged after the redistribution of the labor force if the distribution of employment remains unchanged or if all of the individual intercepts are the same. The former contradicts the search-turnover theory, which predicts that the effect of moving a group of workers who happen to be unemployed at a moment in time is no different, after a few months, from the effect of moving workers who happened to be employed then. The theory predicts that the effect of removing workers from a market is to reduce both unemployment and employment in the market. The latter justification for an unchanged intercept is clearly not supported by the data. Some occupations involve inherently higher unemployment than others, so their intercepts are higher. I conclude that the assumption of an unchanged intercept of the aggregate Phillips curve is untenable, and that the large estimate of the effect of redistributing the labor force among occupations is open to serious question on this account.

Second, even if the calculation of the effects of the program were technically correct in terms of the theory advocated by the Urban Institute

group, the program itself does not make good sense. It proposes to shift the aggregate Phillips curve to the left by causing the rates of wage inflation to vary substantially over occupational groups. Occupations where the Phillips curves have large intercepts would have high rates of inflation, while those with small intercepts would be required to have low rates of inflation, or perhaps even falling wages. For example, their recommendation taken literally implies that the rate of increase of the wages of construction workers should be higher than it is now (though it is high already) and that the rate of wage increase for professional and technical workers should be lower than it is now (though it is low already). In order to maintain the more favorable aggregate Phillips curve achieved this way, it would be necessary to maintain the differentials in the rates of wage increase permanently, thus creating growing disparities in the *levels* of wages. This strikes me as neither practical nor desirable.

I think that the emphasis of the Urban Institute group on elimination of occupational differentials in unemployment is quite mistaken, and that they should return to the more limited and traditional goal of identifying and eliminating specific bottlenecks in the labor market. I estimate that a realistic program of this kind could reduce the overall unemployment rate by about 0.1 point after standardization for inflation.

Holt and his colleagues also propose a program for reducing the geographic dispersion in unemployment by subsidizing the movement of workers from slack to tight markets. Their analysis is essentially parallel to that for occupational dispersion, and suffers from the same overstatement of the potential effects of the policy. In addition, there is a certain amount of double-counting in their evaluation of the two programs: To the extent that the dispersion of unemployment among states is caused by the dispersion of employment by occupation among the states, the first program would reduce the dispersion among states as well, leaving less for the second program. I am inclined to reduce their estimate of the effect of the program from 0.3 point to zero.

LOWERING INSTITUTIONAL BARRIERS

The last set of programs suggested by Holt, MacRae, Schweitzer, and Smith deals with what strikes me as the heart of the problem—institutional barriers in the labor market. A certain ambiguity surrounds their discussion of this topic because it does not fit easily into their theoretical framework.

Within that framework, barriers to mobility between markets have an adverse effect on the Phillips curve by increasing the dispersion of unemployment and decreasing the efficiency of search—that is, union restrictions on entry are bad because a transitory tightening of the market cannot be alleviated by the free movement of workers from other markets. Holt and his colleagues do not hold to this excessively narrow view of the effects of these institutions. They recognize that the institutions operate to create a chronic excess supply in their markets, effectively cutting off entry to a good portion of the total number of jobs in the economy. They do not make any concrete suggestions for breaking down institutional barriers, nor add anything to their list of estimated reductions in unemployment on this account.

Table 2 presents a revised version of the effects Holt and his group expect their policies to have in an economy with the same level of inflation that would correspond with 4.5 percent unemployment in 1972.

I conclude that relatively little improvement in unemployment can be expected from the very large expansion of traditional manpower programs advocated by Holt and his colleagues.

Table 2. Alternative Estimates of Potential Reduction in Unemployment through Selected Manpower Program Proposals

	Estimates by Holt and associates		*Present estimates*	
Program	*Reduction in unemployment*	*Reduction in unemployment rate at 4.5 percent base (percentage points)*	*Reduction in unemployment*	*Reduction in unemployment rate at 4.5 percent base (percentage points)*
Expansion of Employment Service	10%	0.5	2%	0.1
Vocational counseling and teenage work-study	15	0.7	4	0.2
Occupational mobility	25	1.1	2	0.1
Geographic mobility	7	0.3	0	0.0
Total, all programs	47[a]	2.1	8[a]	0.4

Sources: Estimates by Holt and associates, this volume, their Table 1, p. 717; Hall estimates—see text for underlying factors.

a. Computed by multiplying components; for example, $0.47 = 1 - (1 - 0.10) \times (1 - 0.15) \times (1 - 0.25) \times (1 - 0.07)$.

Reducing Unemployment among Disadvantaged Workers

The Area Redevelopment Act of 1961 (ARA) marked the start of modern federal policies for dealing selectively with groups in the labor force that suffer from rates of unemployment higher than the average rate. It provided for training programs for unemployed workers in regions with high unemployment. Soon after the ARA was enacted, the Manpower Development and Training Act of 1962 (MDTA) provided two distinct training programs, which are still in operation today: institutional training and on-the-job training (OJT). The latter is now part of the program called Job Opportunities in the Business Sector (JOBS). Modern training programs have come to focus more on disadvantaged workers—blacks, teenagers, and the poorly educated—than on regional unemployment. Less traditional approaches to helping disadvantaged workers were embodied in two well-known programs associated with the war on poverty: the Neighborhood Youth Corps (NYC) and the Job Corps. Both of these programs provide employment for trainees during their periods of enrollment and give assistance in locating jobs after completion of training.[8] A variety of programs has been instituted more recently with similar objectives; these include the Concentrated Employment Program (CEP), offering a broad range of services to disadvantaged workers; JOBS, offering training and jobs in private industry (discussed in a later section); and the Work Incentive Program (WIN), offering training to adults who receive public assistance.

The magnitudes of these programs are indicated in Table 3, using two different measures: the number of individuals enrolled at the end of the month, averaged over January, April, July, and December 1970, and the number of individuals who enrolled for the first time between July 1969 and June 1970. In most of the programs, the average enrollment is well below the annual flow of new enrollments, indicating a salient feature of these programs: On the average, they retain their trainees for only a few months. It is possible to make a rough calculation of the average duration of a trainee's stay simply by dividing the average enrollment by the flow of new enrollments and multiplying by 12 to convert to months. This measure is accurate for programs that are neither growing nor shrinking, and overstates the average duration for programs that are growing. The results of

8. For a complete history and evaluation of these programs and the MDTA, see Sar A. Levitan and Garth L. Mangum, *Federal Training and Work Programs in the Sixties* (Ann Arbor: Institute of Labor and Industrial Relations, 1969).

Table 3. Number and Average Duration of Enrollments for Manpower Training Programs Administered by the Department of Labor, 1970

Program	*Average number enrolled, 1970*[a] *(thousands)*	*Number of new entrants July 1969–June 1970 (thousands)*	*Average duration (months)*
Manpower Development and Training Act			
Institutional training	51	130	4.7
On-the-job training	43	91	5.7
Neighborhood Youth Corps			
In school and summer	179	436	4.9
Out of school	32	46	8.3
Operation Mainstream	14	13	12.9
Public Service Careers	6	4	18.0
Concentrated Employment Program	47	110	5.1
Job Opportunities in the Business Sector[b]	40	87	5.5
Work Incentive Program	89	93	11.5
Job Corps	20	43	5.6
All programs	522	1,051	6.0

Source: *Manpower Report of the President, April 1971*, Table 2, p. 38, and Table F-1, p. 299. Average duration is ratio of first to second column multiplied by 12. Figures are rounded and may not add to totals.
a. Average of the numbers enrolled in January, April, July, and December 1970.
b. Federally financed.

this calculation are shown in the third column of Table 3. Except for three fast-growing programs (Operation Mainstream, Public Service Careers, and WIN) and the out-of-school program of the NYC, the estimated durations all lie between four and six months. Any discussion of the long-run effects of these programs must take account of this fact.

Partly because of their short duration, training programs for disadvantaged workers seem almost insignificant when compared with conventional education. On the assumption that the programs that offer training on the job (MDTA-OJT, NYC, JOBS) give six months of instruction per year while the others give twelve months per year, the training programs listed in Table 3 give instruction totaling 4.5 million student-months per year. By comparison, high schools give the 15 million students in grades 9–12 about 135 million student-months per year of instruction. Further, the system of vocational education operated by the Department of Health, Education, and Welfare gives about 8 million student-months per year of training to secondary students (this is included in the 135 million figure for high schools) and about 16 million student-months per year of instruction outside high schools. In terms of months of instruction, the elaborate system of

programs for training disadvantaged workers is equivalent to increasing the length of stay of each student in high school by about one month.

A detailed evaluation of the impact of existing programs for training disadvantaged workers or of the prospects for reducing unemployment by expanding the programs requires some exploration of the theoretical basis for these programs as weapons against unemployment. The notion of structural unemployment had an important role in the justification of the early programs of the ARA and MDTA. The structural theory held that a condition of disequilibrium existed in certain markets, notably those for poorly trained, unskilled workers, where unemployment persisted because rigidities in wages inhibited the normal process of equilibration. Since the prevailing wage could not be brought low enough to induce employers to hire an unproductive poorly trained worker, it was thought necessary to raise the productivity of these workers to match the wage in order to put them to work.

The development of extremely tight labor markets in the late 1960s revealed that the structural diagnosis was too simple. The view that unemployment is the difference between the supply of labor and the demand for it cannot explain the behavior of labor markets when demand is strong, as I tried to demonstrate in my earlier article in *Brookings Papers*. Relatively high rates of unemployment were observed among disadvantaged workers in spite of the existence of vacancies in unskilled, low-paying jobs. Unemployment in these markets is a matter of high turnover, not of a chronic shortage of jobs. The remedy of the structuralists still seemed relevant, however, since an unskilled worker who was frequently unemployed because he could not be induced to stay on a low-paying job, might stay permanently on a higher-paying job for which a training program might qualify him. Thus as labor markets tightened during the 1960s the rationale of training programs changed from one of qualifying workers for any job at all to one of qualifying them for good jobs.

ATTEMPTS AT EVALUATION

A number of economists have attacked the problem of measuring the effects of training programs.[9] The results have been almost uniformly fa-

9. Einar Hardin presents a careful review of nine studies in "Benefit-Cost Analyses of Occupational Training Programs: A Comparison of Recent Studies," in G. G. Somers and W. D. Wood (eds.), *Cost-Benefit Analysis of Manpower Policies*, Proceedings of a North American Conference (Kingston, Ontario: Queen's University, Industrial Relations Centre, 1969), pp. 97–118.

vorable to the programs, in the sense that the estimated benefits—mainly increased income to the trainee—exceed, often by several times, the estimated costs—forgone earnings of the trainee and operating costs of the program. An important study by Earl Main[10] attempts to estimate the effects of institutional training under the MDTA. Of the many investigators who have made estimates of this type, Main pays the closest attention to the methodological problems that arise, of which the problem of choosing a control group is the most serious. Main began with a random sample of 1,197 former trainees from forty-nine sample areas. In order to assess the effect of the program, he compared the employment and earnings of this group after training with those of a control group of similar individuals who did not receive training. Interviewers selected members of the control group from among friends of the trainees who were unemployed at the time that the training program began. This method yielded 585 controls; an additional 340 were selected by canvassing the neighborhoods where the trainees lived. The control group was reasonably well matched with the group of trainees in respect to race, sex, and age, but there was a substantial difference in educational attainment: 49 percent of the trainees were graduates of high school, against only 32 percent of the controls. In order to adjust for this and other differences in the compositions of the two groups, Main used a regression model with dummy variables for the following characteristics: sex, education, age, race, previous unemployment, whether or not the individual was the main earner in the family, region, marital status, and number of unmarried children under 18. He also included income per capita of the state where the individual lived. In addition, of course, he used a dummy variable indicating whether or not the individual was a trainee. He studied three left-hand variables: weekly wages for individuals at work, weekly family income for all individuals whether working or not (apparently individual income was not recorded), and the percentage of the time employed since the end of the training period. He found, first, no effect of training on weekly wages; second, an increase of $10.08 per week in income for families that have trainees; and third, a difference of 11 to 22 percentage points in the employment rate for trainees.

These results are only slightly less optimistic than those of the cost-benefit studies mentioned earlier. But Main himself cautions against too optimistic an interpretation of them:

10. "A Nationwide Evaluation of M.D.T.A. Institutional Job Training," *Journal of Human Resources*, Vol. 3 (Spring 1968), pp. 159–70.

The major unresolved question is how much of the estimated net effect of training on employment is really due to some other variable not included in the analysis. . . . It is probable that motivation, intelligence, or other factors have some contribution to make. Those who want jobs the most and who have the best minds might be most likely both to find employment and to use every available means to obtain employment, including MDTA job training courses. Therefore, the true effect of training on employment may well be smaller than the estimate given in this report.[11]

Some evidence reported by Main indicates that this warning must be taken very seriously. First, a problem arises in the manner of selecting the sample of trainees: Only 79 percent of those selected for study could be located when the interviews were made more than a year after training was completed. The remaining 21 percent almost certainly had a less favorable employment experience on the average, since an unemployed person is more likely to move without leaving a forwarding address. No similar attrition took place in the control group, since it was selected at the time of the interviews. The average employment rate of the trainees was apparently about 65 percent.[12] If the employment rate for the trainees that could not be located were, say, 30 percent, then the average employment rate for all trainees would be 58 percent. The difference of 7 percentage points is a substantial fraction of the estimated effect of training on the employment rate of 11 to 22 points.

Second, the difference in the average educational attainment of the two groups is disturbing. The effect of education itself is removed through the use of regression, but the magnitude of the difference suggests the presence of other differences between the two groups of precisely the sort that Main indicates. If differences in motivation, intelligence, and the like are not strongly correlated with the observed characteristics, Main's conclusion needs serious qualification.

The obstacles to scientific evaluation of training programs are fundamental and serious. Even a well-conceived and executed study such as Main's does not make a convincing case that training programs affect unemployment at all. Still, in the absence of knowledge of the effect of the programs on individuals, it is worth investigating the magnitude of the improvement in the aggregate Phillips curve that might result from a program

11. *Ibid.*, p. 169.

12. By employment rate, I mean the fraction of the trainees who are employed. Not all trainees were in the labor force.

that had a known effect in decreasing the unemployment of individual trainees. The problem of translating individual into aggregate effects has been a bothersome one in the literature on the evaluation of manpower policies. Einar Hardin's review, cited earlier, contains a mystifying discussion of "vacuum," "displacement," and other effects that is an attempt to deal with the secondary impact on the economy of programs for upgrading workers. The newly trained worker may displace another worker, or if he was previously employed, another untrained worker may take his place when he moves up. For my purposes, the appropriate way to study this problem is in terms of the shift in the Phillips curve induced by a training program. In particular, I seek to calculate the reduction in the average unemployment rate made possible by training, with the inflationary pressure in the labor market held constant.

AN ILLUSTRATIVE MODEL

I think it is useful in approaching this problem to work out the implications of a simple model of the labor market that has only two markets, one for ordinary workers and the other for disadvantaged workers. Following Holt, I will assume that the rate of change of wages in each market, $\dot{w}_1$ and $\dot{w}_2$, responds only to the corresponding unemployment rates, u_1 and u_2, in a way described by a pair of simple Phillips curves:

$$\dot{w}_1 = \frac{b_1}{u_1} - a_1 \tag{1}$$

and

$$\dot{w}_2 = \frac{b_2}{u_2} - a_2. \tag{2}$$

If both rates of wage increase are constant at a reference level, k, which I will hold fixed for the rest of the analysis, then

$$u_1 = \frac{b_1}{k + a_1} \tag{3}$$

and

$$u_2 = \frac{b_2}{k + a_2}. \tag{4}$$

For example, if $a_1 = 8$, $a_2 = 2$, $b_1 = b_2 = 42$, and $k = 4$ percent per year inflation, then $u_1 = 3.5$ percent unemployment among ordinary workers,

and $u_2 = 7$ percent unemployment among disadvantaged workers. If disadvantaged workers are, say, 29 percent of the labor force, then the average unemployment rate is 4.5 percent. Now suppose that some of the disadvantaged workers are upgraded and enter the market for ordinary workers; then the unemployment rate will fall and the rate of inflation rise in the market for disadvantaged workers, and just the opposite will occur in the market for ordinary workers. As the ratio of w_2 to w_1 increases as a result, the demand for ordinary workers will increase relative to that for disadvantaged workers. Eventually the two-to-one relationship between u_2 and u_1 will be restored. If aggregate economic policy is adjusted throughout this period to maintain the same average rate of inflation, then the rate of inflation in both markets will be the reference level, k, at the conclusion. Equations (3) and (4) indicate that the two unemployment rates, u_1 and u_2, will have their old values at the end of the adjustment as well. What has changed in the economy? First, the average unemployment rate, $u = (1 - d)u_1 + du_2$, has fallen since d, the fraction of the labor force that is disadvantaged, has fallen. Second, the real output of the economy has increased. Third, the wage level of the remaining disadvantaged workers has increased.[13]

The preceding argument has suggested that the experience of individual workers can be used to estimate the aggregate effect of training programs on the unemployment rate (holding the rate of inflation constant) without any adjustment for the response of the economy to the training programs. Partial and general equilibrium coincide. But the empirical studies cited earlier do not support an optimistic view of the aggregate effects of these programs. They suggest that, at its best, an expanded program for training disadvantaged workers, operating for several years, might remove 8 percent of them from their disadvantaged status. This corresponds to a reduction of about 0.02 in d, and to a reduction from 4.50 to 4.42 in the average unemployment rate. No plausible alternative set of parameters in this simple model yields any substantial reduction in the overall unemployment rate from a policy that reduces d by 0.02. For example, if $a_1 = 13.3$ and $a_2 = 0.33$, then $u_1 = 2.42$ and $u_2 = 9.69$. A reduction in d from 0.286 to 0.263 (8 percent) reduces u from 4.50 to 4.33. Whatever their merit as weapons

13. This assumes that the parameters a_1, a_2, b_1, and b_2 of the Phillips curves do not depend on the levels of the two wages. Alternatively a_1 might decrease and a_2 increase as w_2/w_1 increased. It is not possible to state in which direction this would change the conclusion.

against poverty, training programs cannot bring about a substantial shift in the Phillips curve.

The Shortage of Good Jobs

Even during the period of extremely tight labor markets from 1966 to 1969, one frequently heard, especially from black leaders, of the urgent need for more jobs, and of the possibility, if these jobs were provided, of the reduction of certain critically high unemployment rates to levels more consistent with social stability. I tried to show in my paper, referred to above, that the problem was not that workers in groups with high unemployment have trouble finding jobs but that they have trouble keeping them. In other words, the simple diagnosis of groups of workers unable to find any jobs at all even when labor markets in general are tight is untenable. Was the passionate demand for more jobs in the late sixties entirely spurious? The answer to this question is of considerable importance because even more today than at that time, proposals for the creation of jobs through subsidy or direct employment receive serious consideration in Congress.

In the late sixties several economists began to work out a resolution of the paradox of a shortage of jobs in an overheated economy. The resulting body of thought is somewhat loosely called the "dual theory."[14] The duality is between two sectors of the labor market: the primary sector, offering good jobs with high wages, satisfactory working conditions, stability, and prospects for promotion, and the secondary sector, offering bad jobs with poor wages and conditions, frequent layoffs, and no hope of advancement. A favored portion of the labor force, particularly adult white males, enjoys the benefits of employment in the primary sector, while the rest—women, teenagers, and members of minorities—suffer from confinement to the secondary market, where, in particular, a great deal of turnover and consequent unemployment are observed. The problem, then, is not a shortage of jobs, but a shortage of good jobs. The force of this theory as an empirical generalization cannot be denied. For example, it predicts not only that

14. David M. Gordon gives a complete account of the development of the dual theory in "Economic Theories of Poverty and Underemployment" (January 1971; processed), pp. 69–91.

The leading proponent is Michael J. Piore; see his "Jobs and Training," in Samuel H. Beer and Richard E. Barringer (eds.), *The State and the Poor* (Winthrop, 1970), and Doeringer and Piore, *Internal Labor Markets.*

white males will have higher wages than the other race-sex groups, but that their wages will rise more with age. Both of these predictions are strikingly confirmed in the results depicted in Figure 3 of my earlier paper.[15] The dual theory has struck such a responsive chord among economists and others that it has had an important role in the diagnoses of the problems of modern labor markets presented by the administration and the Committee for Economic Development.[16]

To qualify as a theory, the dual theory must go beyond an empirical generalization to a deeper explanation of what is observed. In particular, it must deal with the objection that the forces of the market would tend to remove any disparity in wage rates between the two sectors. If labor were cheaper in the secondary market, the objection goes, the profit-maximizing entrepreneur would discharge his primary workers and hire only from the secondary market. The shift in demand would continue until the wage rates and other costs of labor were equalized and the distinction between the primary and secondary markets abolished. The dual theory must invoke some force, counteracting the natural force of the market, to explain the continued existence of a differential in wages between the markets. The writings of Piore and others[17] have emphasized three basic explanations of the duality of the labor market: restrictive practices, discrimination, and low productivity of secondary workers because of their previous experience in the secondary market.

The principal restrictive practice discussed by Piore is occupational licensing. For example, a young black finds it hard to enter the skilled trades because licensing boards act in the interest of already licensed workers to make it as difficult as possible for employment to increase. To an economist, the main purpose of licensing appears to be to translate an increase in demand for a given trade into an increase in wages rather than in employment.

Piore distinguishes two kinds of discrimination against secondary workers, *discrimination pure and simple* and *statistical discrimination*. Dis-

15. "Why Is the Unemployment Rate So High?" p. 394. For more details see my "Wages, Income and Hours of Work," in Glen Cain and Harold Watts (eds.), *Income Maintenance and Labor Supply Econometric Studies* (University of Wisconsin, Institute for Research on Poverty, forthcoming).

16. *Manpower Report of the President, April 1971*, Chap. 3; Committee for Economic Development, *Training and Jobs for the Urban Poor* (CED, 1970).

17. Piore, "Jobs and Training," and Doeringer and Piore, *Internal Labor Markets*, Chap. 8.

crimination pure and simple excludes blacks and other workers from primary employment because of the prejudices of employers, or, perhaps more important, of employees.[18] Statistical discrimination is a more subtle phenomenon. If employers have trouble identifying productive workers, they may rely on characteristics, notably skin color, that have nothing to do with productivity but that are correlated with it. Thus an exceptional black worker has difficulty getting a good job partly because employers will not be able to identify him as exceptional and will assume that he is closer to the average of all blacks than he is in fact. Where information is hard to get, this kind of behavior on the part of employers is perfectly rational. As Kenneth Arrow has pointed out, the existence of statistical discrimination removes a good part of the incentive for any individual black worker to improve his own productivity.[19] There may be a self-sustaining equilibrium in which blacks receive lower wages and have lower productivity for no reason other than this vicious circle.

Finally, Piore observes that entrapment in the secondary market causes workers to acquire habits of work that are inappropriate for primary jobs, and that are difficult to shed when they are offered good jobs. In particular, a secondary worker has a more casual devotion to his job, reporting for work late or not at all on some days, and quitting without any good reason, often within months of taking the job. Piore emphasizes that it is habits of work and attitudes about the job, not so much the technology of production or the specific skills of the worker, that distinguish the primary from the secondary market.

Of the three forces tending to maintain the duality of the labor market, only restrictive institutions and discrimination are fundamental causes. The damaging effect of secondary jobs on secondary workers tends to reinforce these causes, and would preserve the duality for a considerable length of time if restrictive institutions and discrimination could be eliminated, but it is not a basic cause and could not account for the duality of the labor market by itself. Thus, starting from the empirical datum that the secondary

18. The mere existence of prejudiced employers or employees is not necessarily harmful to the wages of minority members, as Gary S. Becker has observed in *The Economics of Discrimination* (University of Chicago Press, 1957), p. 37. But even the most refined estimates of the differential between the wages of similarly qualified whites and blacks suggests that it is substantial; see Michael D. Hurd, "Changes in Wage Rates between 1959 and 1967," *Review of Economics and Statistics*, Vol. 53 (May 1971), pp. 189–99.

19. "Some Models of Racial Discrimination in the Labor Market," RM-6253-RC (RAND Corporation, 1971; processed).

market or something like it exists, Piore's theory differs from, say, the theory that disadvantaged workers lack skills, in asserting that the major problems of the labor market would disappear through time if discrimination and restrictive institutions were eliminated.

The proponents of the dual theory of the labor market pay little attention to the role of labor unions in maintaining the shortage of good jobs. Yet this subject merits investigation, since, among blue collar workers, the distinction between union and nonunion jobs is almost the same as that between primary and secondary jobs. Unions can create an artificial scarcity of jobs in two ways: direct control over entry to an occupation, common only in craft unions, or indirect control through the wage rate, the usual case in industrial unions. For example, there is a shortage of jobs as electricians for the clearly visible reason that the number of apprentices is closely controlled. There is a shortage of jobs as automobile workers for the more subtle reason that the United Auto Workers have succeeded in negotiating a wage high enough so that the automobile makers, who make the decision about hiring and firing, decide to hire systematically fewer workers than are interested in working at the high wage level. The two methods of control come to essentially the same thing.

SOURCES OF WAGE DIFFERENTIALS

To assess the importance of the phenomena cited by the dual theory requires estimates of the quantitative impact of restrictive institutions (including unions) and discrimination. In principle these estimates call for a comparison of employment and wages by occupation before and after reform. The best that I can offer, however, are rough measures of the wage differentials in the economy as it stands, or, rather, as it stood in 1967.

From the same body of data used in my earlier study of unemployment,[20] I have estimated percentage differentials in wages associated with union membership, employment by government, and occupation. The model underlying these estimates is the following: The wage equals the wage base, as determined by age, education, and other personal characteristics, times (1 plus differential if a union member) times (1 plus differential if employed by government) times (1 plus differential for occupation).

20. The 1967 Survey of Economic Opportunity, conducted by the U.S. Bureau of the Census. For further discussion of this source of data, see my "Wages, Income and Hours of Work."

I distinguish eight separate union differentials by geographic location (urban and rural areas in four parts of the country), four kinds of government employment (postal, other federal, state, and local), and eleven occupations. The occupational differentials are measured relative to the wages of operatives. I estimated the differentials in the model just stated by defining a regression equation in which the left-hand variable is the natural logarithm of the wage and the right-hand variables are dummy variables for union membership, employment by government, and occupation. The regression coefficients of the dummy variables then are direct estimates of the proportional differentials. Dummy variables for age and years of education (and interactions between them), health, residence at age 16 (foreign or United States), and part-time work are included as determinants of the base wage. Thus the estimated differentials are fully adjusted, for example, for the different age and educational compositions of the union and nonunion groups in the labor force. This study is open to precisely the kind of criticism I directed at Main's study of the effects of training programs: omission of unmeasured characteristics biases the coefficients of the characteristics that are included. I will return to this point shortly.

Estimates were made separately for the four race-sex groups; these results are shown in Table 4. The differentials for union membership are roughly consistent with previous studies, although they are perhaps slightly higher.[21] In all four regions, the union differential is generally higher in rural than in urban areas. This is especially true for white males. Among the four regions, the union differentials seem to be highest in the South and lowest in the Northeast. The differentials for government employment are positive for fifteen out of the sixteen cases. They tend to be smallest for white males among the four race-sex groups. Finally, except for private household workers, farmers, and farm laborers, the differentials for occupational groups tend to be small, indicating that most of the differences in the average wages by occupation can be explained by differences in personal characteristics.

These estimates of the differentials in wages associated with union membership, government employment, and occupation do not by themselves measure the impact of restrictive institutions on the distribution of earnings among the members of the labor force. The estimate that the wage of a white female union member in the urban North Central region is 20 percent

21. See Harold Gregg Lewis, *Unionism and Relative Wages in the United States: An Empirical Inquiry* (University of Chicago Press, 1963).

Table 4. Wage Differentials Associated with Union Membership, Government Employment, and Occupation, by Color and Sex, 1967

Percentage difference

Characteristic	*White males*	*Black males*	*White females*	*Black females*
Union membership				
Urban Northeast	0.12	0.11	0.09	0.00
	(0.02)	(0.03)	(0.03)	(0.04)
Rural Northeast	0.22	...	0.18	−0.28
	(0.60)		(0.12)	(0.55)
Urban North Central	0.16	0.24	0.20	0.04
	(0.02)	(0.03)	(0.04)	(0.04)
Rural North Central	0.30	...	0.21	...
	(0.04)		(0.10)	
Urban South	0.24	0.34	0.24	0.22
	(0.02)	(0.02)	(0.05)	(0.05)
Rural South	0.31	0.33	0.23	0.49
	(0.03)	(0.06)	(0.08)	(0.11)
Urban West	0.17	0.22	0.18	0.06
	(0.02)	(0.04)	(0.04)	(0.06)
Rural West	0.29	...	0.02	...
	(0.08)		(0.19)	
Government employment				
Post Office Department	0.06	0.28	0.38	0.38
	(0.04)	(0.04)	(0.09)	(0.06)
Other federal	0.22	0.25	0.27	0.22
	(0.03)	(0.03)	(0.05)	(0.04)
State	0.07	0.11	0.14	−0.03
	(0.04)	(0.08)	(0.06)	(0.08)
Local	0.11	0.23	0.07	0.10
	(0.03)	(0.05)	(0.03)	(0.06)
Occupational group				
Professional and technical	0.21	0.20	0.29	0.40
	(0.02)	(0.04)	(0.03)	(0.04)
Farmers	−0.32	...	...	...
	(0.10)			
Managers, officials, and proprietors	0.26	0.09	0.19	0.20
	(0.02)	(0.05)	(0.04)	(0.08)
Clerical workers	0.04	0.02	0.13	0.09
	(0.02)	(0.03)	(0.02)	(0.03)
Sales workers	0.08	−0.12	−0.18	−0.12
	(0.02)	(0.06)	(0.03)	(0.06)

Table 4 (*continued*)

Characteristic	*White males*	*Black males*	*White females*	*Black females*
Craftsmen	0.16	0.11	0.01	0.07
	(0.01)	(0.02)	(0.06)	(0.07)
Operatives	0.00	0.00	0.00	0.00
	...	...	...	...
Private household workers	−0.60	−0.23	−0.58	−0.41
	(0.21)	(0.19)	(0.04)	(0.02)
Service workers	−0.15	−0.16	−0.19	−0.11
	(0.02)	(0.02)	(0.02)	(0.02)
Farm laborers	−0.43	−0.46	−0.47	−0.39
	(0.03)	(0.03)	(0.13)	(0.06)
Other laborers	−0.07	−0.04	−0.16	−0.05
	(0.02)	(0.02)	(0.09)	(0.08)
Number of observations	9,603	4,360	5,690	3,611
Standard error of percentage differential	0.409	0.371	0.443	0.389

Source: Estimated by author from the 1967 Survey of Economic Opportunity conducted by the U.S. Bureau of the Census, unpublished tabulations. Data are for all private wage and salary workers and government employees. Standard errors appear in parentheses.

higher than the wage of a similar woman who is not a union member tells little about the effect of unions without information about the proportion of these women who are members of unions. In order to give a systematic account of the total impact of restrictive institutions, I have calculated the frequency distribution of the wage differentials received by all of the members of the labor force. This distribution appears in Figure 1 for the effects of union membership and government employment (but not occupation) on the earnings of the entire labor force and of the four race-sex groups. The results for the entire labor force show that 78 percent of all workers receive essentially no benefit (0.0 to 0.10 differential) from these two restrictive institutions, while 8 percent of all workers receive a differential of more than 0.20. The disaggregation by race-sex groups shows that almost all of the benefits accrue to men: 91 percent of white females and 94 percent of black females receive differentials of 0.10 or lower. For men, differences between races are not conspicuous. A slightly lower proportion of black males receives a differential of 0.10 or lower, but the average is somewhat higher for blacks than for whites. Taken together, the results of Figure 1 do not support the hypothesis that the two restrictive institutions, unions and civil service, divide the labor force into primary and secondary sectors. Rather,

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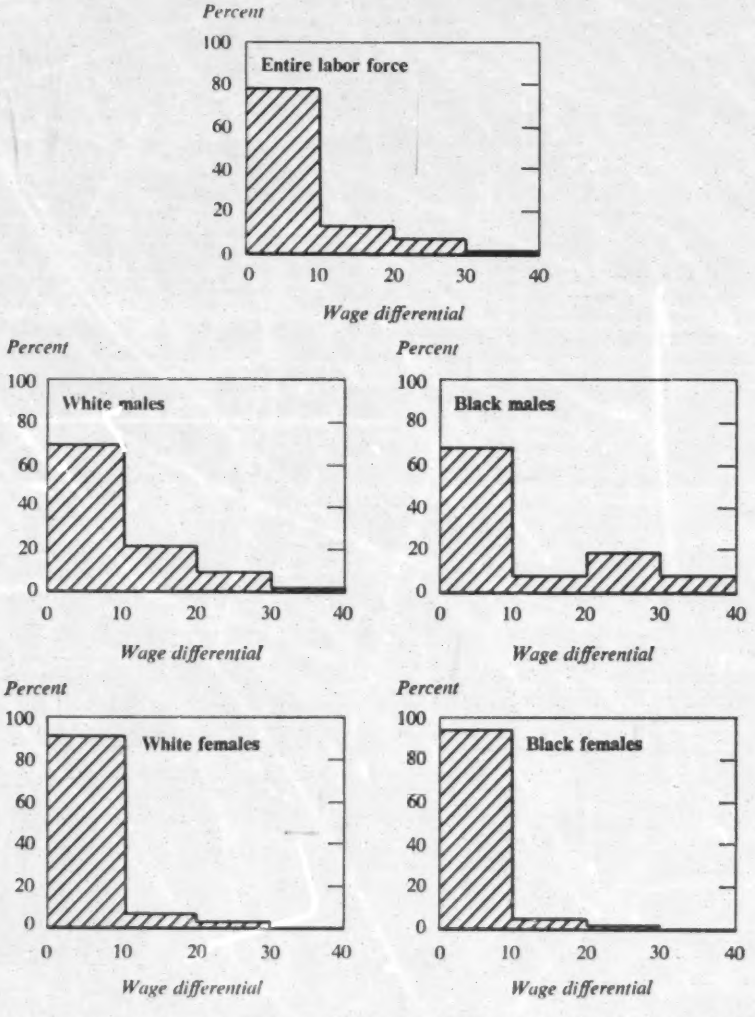
Figure 1. Frequency Distribution within the Labor Force of Wage Differentials Associated with Union Membership and Government Employment, by Color and Sex, 1967



Source: Calculated from the regression coefficients of Table 4 by applying the weights reported in the Survey of Economic Opportunity for inflating the data to levels for the total U.S. population.

these institutions seem to provide certain limited benefits to a fairly small proportion of the male labor force.

The estimated differentials by occupational groups measure less precisely the effects of restrictive institutions. To some extent, the fact that black male craftsmen receive wages 18 percent higher than those of black operatives merely indicates unmeasured differences between the individuals who are craftsmen and those who are operatives.[22] On the other hand, part of the differential must be attributed to the restrictive institutions associated with more highly paid occupations—for example, occupational licensing in the case of craftsmen. A treatment of occupational differences in wages that attributes them all to restrictive institutions gives an upper bound to the impact of these institutions.

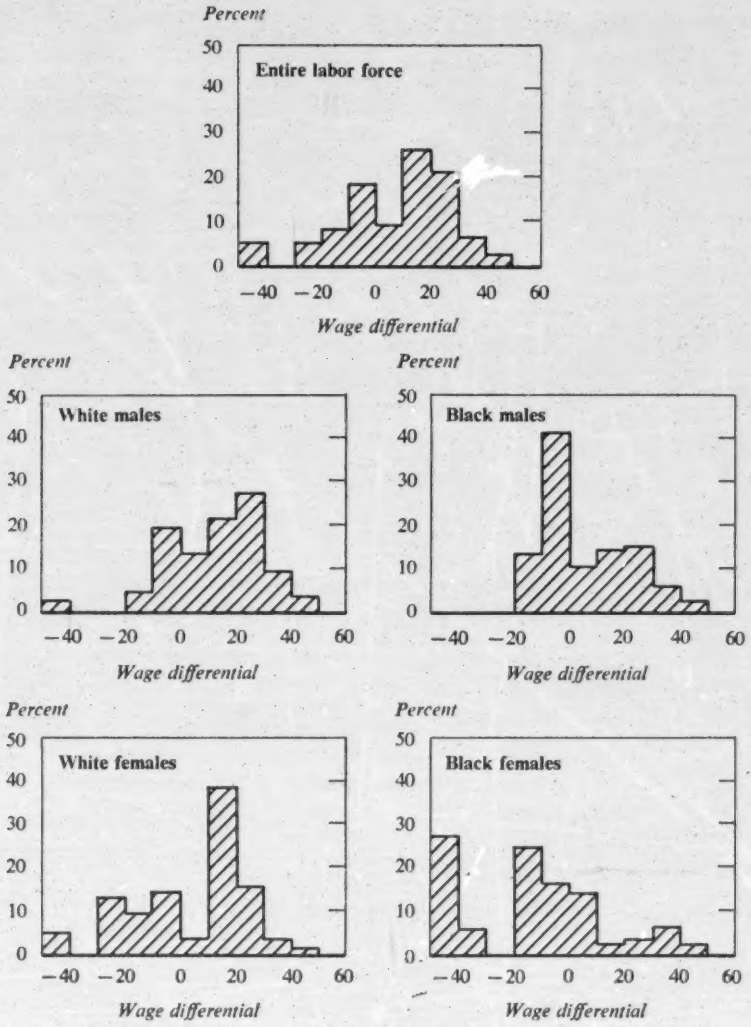
Distributions of wage differentials including occupational differentials in the labor force appear in Figure 2. These distributions are much more favorable to the hypothesis of the dual labor market. Within the entire labor force, the differentials are distributed roughly symmetrically around zero, and do not cluster at zero. These results are consistent with the notion of an important secondary sector in the labor market in which workers do not receive the protection of restrictive institutions associated with occupation. It does not appear to be feasible to make separate estimates of the effect of identifiable restrictive institutions. Those included in Figure 2—unions and the civil service—contribute relatively little to the dispersion of the distributions of wage differentials. The dual theory remains simply a persuasive conjecture without strong empirical support.

The JOBS Program

In 1968 President Johnson announced a large-scale response to the demand for more jobs, in the form of a program called Job Opportunities in the Business Sector, or JOBS. The idea was to stimulate employers, through subsidy and exhortation, to offer good jobs to workers who were previously unable to find them. A private organization, the National Alliance of Businessmen (NAB), was created for the purpose of locating prospective employers, and funds were made available through the Manpower Administration to subsidize employers by paying the extra costs of training and

22. U.S. Bureau of the Census, *Current Population Reports*, Series P-60, No. 80, "Income in 1970 of Families and Persons in the United States" (1971), p. 120.

Figure 2. Frequency Distribution within the Labor Force of Wage Differentials Associated with Union Membership, Government Employment, and Occupation, by Color and Sex, 1967



Source: See Figure 1.

other expenses incurred in the first few months of employment of the disadvantaged and hard-core unemployed workers. This program is worth studying in detail, since the present administration has chosen JOBS as the central part of its manpower program.

JOBS is a strikingly large program. Between March 1968 and September 1970, 560,000 workers were hired under its provisions.[23] There is no reason to suppose, however, that anywhere close to this number of workers were placed in good jobs. No systematic data have been published on the nature of the jobs filled under the program, and until recently at least, no working system existed for collecting the data from employers. An investigator from the General Accounting Office stated: "We reviewed the files of 158 companies [in San Francisco] that pledged jobs in 1968 and 324 that pledged jobs in 1969, and found that 26 (16.4 percent) and 33 (10.2 percent), respectively, were offering jobs which appeared to be in high-turnover occupations involving minimum skills and low wages. These included employment as janitors, messengers, maids, porters, dishwashers, busboys, potwashers, copy boys, and bar assistants, many of which were at wage rates of less than $2.00 an hour."[24] A large portion of the rest of the jobs are apparently only just above this level. Concern about the quality of the jobs has led recently to the development of a formal "Occupational Opportunities Rating System," which is used to rule out JOBS projects "offering jobs below minimum standards of skill content, potential progress, and stability."[25]

JOBS consists of two distinct programs. The first involves on-the-job training subsidized through contracts with the Manpower Administration. The second is totally unsubsidized. In both cases, the NAB is responsible for locating employers who are willing to take on disadvantaged workers. The subsidy paid in the contract part of the program is relatively small, averaging nationally between $2,500 and $3,000 per trainee[26] and about 75 percent of the jobs filled under the program have been in the noncontract part.[27] The Manpower Administration has consistently failed to spend its

23. *Manpower Report of the President, April 1971*, p. 44.

24. "Prepared Statement of Henry Eschwege, Associate Director, Civil Division, U.S. General Accounting Office, Washington, D.C.," in *Manpower Development and Training Legislation, 1970*, Hearings before the Subcommittee on Employment, Manpower, and Poverty of the Senate Committee on Labor and Public Welfare, 91 Cong. 1 and 2 sess. (1970), Pt. 4, p. 2226.

25. *Manpower Report of the President, April 1971*, p. 44.

26. "Statement of Henry Eschwege," p. 2228.

27. *Ibid.*, p. 2219.

appropriation for training contracts under JOBS, often by wide margins: Of the $624 million appropriated for JOBS between March 1968 and the end of February 1970, just over half ($348 million) had been obligated and less than a sixth ($96.9 million) had actually been paid to contractors.[28] Apparently some of the contracts have involved an unrealistically large number of training slots, and payments under these contracts (based on the actual number of days of training) are well under the original amount of the contract.[29]

The absence of suitable data makes it difficult to appraise JOBS as a program for offering good jobs to disadvantaged workers. My tentative impression, however, is that the overall impact of the program is very much smaller than is suggested by the number of workers enrolled in it. Underneath its modern dress of "job development" and "sensitivity training," the contract part of JOBS is no more than a conventional training program, suffering from all of the defects of these programs and another large one besides: The contractors often have no previous experience in operating training programs. Since the contracts pay only for the costs of training, and do that only for a few months, the program does nothing to induce employers to offer good jobs. The unsubsidized noncontract part of JOBS seems to operate in the following way: An executive of a large enterprise becomes enthusiastic about the program and inaugurates a policy to employ disadvantaged workers in good jobs under a carefully arranged program with extensive supportive services. Programs of this kind are, I think, the one clear success of JOBS, although it should be recognized that many large employers had already begun to undertake this kind of activity well before JOBS was created. The enthusiastic executive also becomes a missionary for JOBS. Through the NAB, he solicits pledges from other employers to do the same kind of thing. But many of the other employers, especially small ones, have neither the enthusiasm nor the means to run serious programs. The path of least resistance is to make a pledge and to fulfill it by employing disadvantaged workers in the same kinds of jobs they have had in the past. Reliance on altruism seems to work mainly in big business. JOBS does not seem to have been successful, through either persuasion or subsidy, in inducing employers other than very large corporations to offer good jobs to disadvantaged or secondary workers.

28. *Ibid.*
29. *Ibid.*, p. 2229.

Public Employment

The disappointing record of JOBS in trying to induce private employers to provide more good jobs has caused attention to turn to an alternative policy, the creation of jobs directly in the government. In discussion of proposals of this kind, the distinction between movements along the Phillips curve and shifts of the curve itself is especially important. Many of the proposals of the past year (with 6 percent unemployment) amount to almost pure movement along the Phillips curve, in that they provide temporary employment for unemployed workers in general. This kind of increase in the demand for labor is probably just as inflationary as any other, and would put the economy at a point of lower unemployment and higher inflation that could also be achieved by a variety of other policies for stimulating demand. Until August 15, 1971, the administration argued that general stimulation of the economy was inappropriate. Consistent with this view, the President vetoed the Employment and Manpower Act of 1970, which provided about $3 billion for subsidizing employment in state and local governments.

Congress had, in fact, embodied in the law some restrictions that made its effect on the demand for labor selective enough, in principle, to create less inflation per point of reduction in the unemployment rate than would a policy of general stimulation of demand through monetary or fiscal policy. These provisions were strengthened in a new bill, the Emergency Employment Act of 1971, which the President signed in July 1971. It provides $2.25 billion for jobs in state and local governments. It has the following provisions designed to have a selective effect on the demand for labor:

1. The jobs must lead to permanent employment (not necessarily in government) and must be in fields that will have increased demand in the future. The administration has been adamant that the program not create what it calls "dead-end" jobs. On the other hand, the law expires in two years, so the governments have to be prepared to finance the new jobs fairly soon, or to place workers in private industry.

2. Workers must have been previously unemployed or underemployed, except for supporting personnel. Preference is to be given to veterans of the war in Vietnam, welfare recipients, participants in training programs, and disadvantaged workers in general.

3. Professionals may account for no more than a third of total employment in the program of any single government. Each may be paid no more than $12,000.

4. The new jobs must represent an actual increase in the number of jobs in existence and federal funds may not displace other funds.

Powerful forces exist to translate the effect of this law into a movement along the Phillips curve, rather than a shift in the curve, in spite of the provisions just listed. In the first place, a two-year subsidy is not a satisfactory method for inducing governments to offer permanent jobs. If, even at full employment, there is already a shortage of good jobs in the private economy, the effects of this policy as a training program will be small. The fundamental defect of the law is its failure to have any long-run impact on the demand for labor. Even in the short run, the intent of the law will be subverted. The only compulsory restriction on the kind of workers hired under the Emergency Employment Act is that they must be unemployed or underemployed at the time they are hired (even this does not apply to administrative and other higher-level personnel). With 6 percent of the labor force now unemployed, including an atypical proportion of workers laid off from good jobs, this requirement imposes hardly any constraint on hiring. State and local governments will hire exactly the same workers who would be hired in the private economy if there were a general expansion in demand, so in this respect the law will induce no shift at all in the Phillips curve. Some of the other restrictions on the character of the new employment may have favorable effects on the composition of demand, depending on how they are enforced. If governments can meet the requirement for hiring disadvantaged workers by increases in the number of janitors hired, for example, these requirements will come to nothing.

It appears that the Emergency Employment Act is mainly a policy to reduce unemployment by moving along the Phillips curve, in spite of the administration's attempts to make it something else. It competes with other policies for expanding demand, perhaps with a slight advantage, but cannot serve as a model for federal policy for shifting the composition of the demand for labor in a way that is favorable for disadvantaged workers. In the concluding section of this paper I discuss briefly the form that a program for bringing about a true shift in the composition of demand might take. This program, contractual in form, would be suitable for inducing employment in state and local governments as well as by private employers.

Experience with the Creation of Good Jobs

A number of large corporations have instituted programs for offering good jobs to disadvantaged workers. The experiences of several of these are reviewed in a volume edited by Peter B. Doeringer,[30] covering Western Electric, IBM, Westinghouse, Equitable Life Assurance, and General Electric. Of these, I will discuss Edward Banfield's chapter on IBM[31] because it presents data on the cost of the program as well as an evaluation of its effect. IBM's plan was to offer employment in a modern industrial environment to workers whose previous experience was in low-paying, unstable jobs. It opened a plant in the Bedford-Stuyvesant section of Brooklyn and recruited production workers for it locally. Unskilled workers were offered relatively low starting wages, $2.12 per hour plus substantial fringe benefits, but IBM made it clear that the jobs were secure and offered definite chances for promotion. It was apparent that there was a shortage of this kind of job, since IBM received 2,565 applications for the 87 positions that were filled in the summer and fall of 1968. Selection from among the applicants was explicitly on the basis of expected productivity, mainly because IBM wanted to be able to promote the new workers rapidly. Still, for many of the workers hired, the jobs with IBM were obviously very much better than the other jobs open to them. For example, 19 percent of the men selected had been in prison and 35 percent of the men and 64 percent of the women had been unemployed for six weeks or more before applying.

In spite of the data on costs and productivity presented by Banfield, it is difficult to estimate how much it cost IBM to produce in the new plant rather than in its established suburban plants. Before the plant began operation, its manager estimated that it would cost $500,000 per year for the first few years, with an average employment of about 300 local workers. This is under $2,000 per worker per year and includes the cost of on-the-job training, so it compares favorably to the average cost of training under JOBS. Banfield reports that the productivity of the workers in Bedford-Stuyvesant rose from a fifth of that of ordinary workers to half within a few months, and that it appeared likely to rise further as additional learning

30. *Programs To Employ the Disadvantaged* (Prentice-Hall, 1969).
31. "An Act of Corporate Citizenship."

took place. Since the new workers were paid less than the experienced workers at other plants, the cost of the direct labor input at the new plant was not very much greater than the cost at the old plants. However, most of IBM's costs are indirect, and it is difficult to compare these costs between the plants; for one example, the new plant used the medical services of IBM's Manhattan office without charge. High-level executives spent considerable time in organizing and supervising the new plant, which again was not charged specifically to it. My rough impression from Banfield's discussion is that the program cost $3,000 or $4,000 per worker per year in the actual cost of the operation, imputed costs of services received from other parts of IBM, and forgone profits.

IBM's new employees seem to have reacted favorably to their new jobs. Turnover was less than expected: Out of an average labor force of about fifty in the first six months, there were two quits and three firings. Absenteeism, which was about the same as at IBM's suburban plants, was far less than expected. In general, there seems to be little evidence that the employees brought the pathological conditions of their previous employment with them to IBM. Although the benefits of the program are hard to quantify, it is quite clearly feasible, if at a fairly high price, to provide good jobs to selected members of a group in the labor force whose previous jobs were unstable and low paid. The problem facing the designers of federal manpower policy is to discover a way to persuade employers to engage in programs of this kind on a vastly larger scale.

Conclusions

The tone of my survey of alternative proposals for shifting the Phillips curve has been generally negative. I found little evidence that a large expansion of existing programs could accomplish very much. The Employment Service already does a fairly complete job of listing openings in certain sectors of the economy, but is not well suited to other sectors. Neither intensive nor extensive expansion has much prospect for decreasing unemployment. Training programs—both those to increase occupational mobility, as suggested by Holt, and those to make disadvantaged workers more productive—have been a serious disappointment even at their present scale. The conventional program of the MDTA, like the innovative programs of

the CEP and JOBS, suffers from excessive turnover and an inability to place its graduates in good jobs.

The hypothesis that the basic problem in the labor market is a shortage of good jobs seems capable of explaining the failure of conventional manpower policy and suggests, in its place, policies to provide good jobs to disadvantaged workers. Two recent federal policies that seem to have this objective, embodied in JOBS and the Emergency Employment Act of 1971, fail for opposite reasons—in the first case because JOBS does not generally offer good jobs, and in the second because the Emergency Employment Act jobs probably will not go to disadvantaged workers.

The main ray of hope in my survey is the apparent success of limited programs to offer good jobs in large firms to disadvantaged workers. The actions of these firms suggest that they have a certain amount of social conscience and thus a certain commitment to the goal of helping the disadvantaged, and are less susceptible to the pressures undercutting programs than are businesses and governments that act purely in their own interests. It is probably neither feasible nor desirable for government policy to try to foster the development of social conscience elsewhere in the economy, especially since that which exists now has an uncanny correlation with monopoly power. The problem at hand, then, is to design a federal program that makes it in an employer's own interest to offer good jobs to disadvantaged workers.

There are, I think, three basic kinds of policies to accomplish this: federal contracts, taxes, and employment quotas. Contracts with the Manpower Administration have been the form through which the federal part of JOBS has been administered, and the experience of that program is suggestive of the advantages and disadvantages of administration through contracts. In principle, contracting is a powerful and flexible tool for imposing federal policy on businesses and governments. Plans are reviewed in advance and no applicant receives a contract as a matter of right. In JOBS, at least, very few of the advantages of contracting are realized, however. Payment is for direct expenses of training, including a limited allowance for wages during on-the-job training. The result has been to stimulate expenditures on peripheral training that has identifiable costs and to discourage employment in jobs where there is any gap between the wage paid and the productivity of disadvantaged workers. It seems to me that the principle of reimbursement for costs should be purged entirely from federal contracts for developing good jobs. It has hurt JOBS very badly by making

the contracts so unattractive that the Manpower Administration has been able to negotiate only relatively few, and those only by imposing almost no standards on the nature of the jobs they cover. If this requirement were eliminated, and the government were instead to pay an explicit subsidy large enough to make the contracts attractive, strong standards could be imposed on both the nature of the jobs created and on the kind of workers chosen to fill them. Since one of the main purposes of this program would be to create a stronger attachment between job and worker, contracts could contain specific provision rewarding an employer for reducing turnover in his work force.

Table 5 presents estimates of the cost and impact of a contractual employment program of realistic scale. The proposed program would last three years for each job and would subsidize the job by $4,000 in the first year, $3,000 in the second, and $2,000 in the third. My estimates assume an attrition rate of 20 percent per year, very much lower than the rates in existing training programs, but higher than those reported for the programs of large corporations. They assume that the new workers are drawn from a population with a 10 percent unemployment rate, that unemployment is nonexistent among the workers covered by the contracts, and that the newly created job-worker combinations are associated with a 4.5 percent unemployment rate after completion of the program.[32] The estimated impact of the program is small. Many years of operation would be required to reduce the unemployment rate by even 0.1 percentage point, say from 4.5 to 4.4 percent. A scale two or three times larger than that assumed in Table 5 might yield a proportionately larger decrease in unemployment, but this kind of contractual program seems unlikely to achieve any substantial reduction in unemployment. As the program expanded, it would become increasingly difficult to find productive activities suitable for upgrading or expansion that were not protected by powerful interests. It would take more than the kind of contract proposed here to open up additional good jobs in the building trades, for example.

A comprehensive tax policy seems to be an attractive alternative to a contractual program exactly because of its large scale. The provisions of the federal tax on corporate income automatically influence the behavior

32. Note that unemployment is assumed to fall not by the total number of jobs created but by 10 percent of those employed under the program and 5.5 percent of those who complete it. This embodies the main point of view of the paper that all calculations of reductions in unemployment are standardized for inflationary pressure.

Table 5. Employment, Unemployment, and Costs under Proposed Contractual Employment Program, 1972–77

Hires, employment, and unemployment in thousands; dollar amounts in millions

Year	New hires	Number of new hires remaining		Total number employed	Cost[c]	Cumulative three-year completions	Reduction in number of unemployed[d]	Reduction in unemployment rate[e] (percentage points)
		Second year[a]	Third year[b]					
1972	150	...	...	150	$ 600	...	15	0.018
1973	150	120	...	270	960	...	27	0.032
1974	150	120	96	366	1,152	...	37	0.044
1975	150	120	96	366	1,152	96	42	0.049
1976	150	120	96	366	1,152	192	47	0.056
1977	150	120	96	366	1,152	288	52	0.062

Source: Originated by author.

a. Assuming 20 percent attrition in the first year.

b. Assuming 20 percent attrition in the second year.

c. $4,000 per job in the first year, $3,000 in the second, and $2,000 in the third.

d. Assumes a reduction from 10 percent to 0 unemployment among those employed under the program, and from 10 percent to 4.5 percent among those who complete the three-year program.

e. Assumes a constant labor force of 85 million.

of every business in the country of any size. The tax credit on investment provides a natural model for this kind of policy. The difficulty in designing a tax policy for shifting the Phillips curve lies in the subtlety of the goal. Throughout its history, the investment credit has been used mainly as a countercyclical device; it has been put on and taken off in attempts to avoid under- and over-full employment, as an alternative to or in conjunction with decreases or increases in tax rates. A credit on employment could be used for the same purpose. But policies of this sort induce movements along the Phillips curve, not shifts of the curve itself. What is needed is a highly selective tax to bring about a shift in the composition of the demand for labor. This might take the form of a tax credit for long-term employment of disadvantaged workers. Enforcement of the tax laws would require a method for certifying workers eligible for the credit; this would probably involve the Manpower Administration. There does not seem to be any large difference between administration through the tax system and through contracts.

Instead of inducing employers to offer more good jobs, the federal government might consider compelling them to do it. In a system of compulsion through employment quotas it would be difficult and dangerous to formulate precise but complicated definitions of who the disadvantaged workers were and what kind of job should be opened up for them. For example, it is appropriate to reward an employer for keeping a worker on the job for more than two years but it would be catastrophic to require him to keep all of his workers that long. The theory of statistical discrimination suggests a simple answer to the problem of formulating quotas: If easily observed characteristics are highly correlated with inability to find good jobs, the quotas should be stated in terms of these characteristics. In practical terms this means setting employment quotas for women and for racial minorities. A fairly detailed proposal for a policy of this kind has been made by John Kenneth Galbraith, Edwin Kuh, and Lester C. Thurow.[33] They propose that all employers with more than 2,000 employees be required, within ten to thirteen years (depending on firm size), to employ women, blacks, and Spanish-speaking workers in proportion to their presence in the labor force. Further, in order to guard against balancing black janitors and female typists, for example, against white male executives, they would require that the appropriate ratios prevail in each wage

33. "The Galbraith Plan To Promote the Minorities," *The New York Times Magazine* (August 22, 1971), p. 9.

class as well as overall. Thus about one-third of all jobs paying more than five dollars per hour would have to be held by women, and one-eighth of them by blacks. Undoubtedly, this policy would have a substantial impact on the Phillips curve: If the unemployment rates of women and of blacks could be reduced to the level of white males, the overall rate would drop by between 1.0 and 1.5 percentage points. This policy far transcends the scope of manpower policy and seems remote from political feasibility.

What, then, might realistically be done to shift the Phillips curve? Among the manpower programs discussed in this paper, none seems capable of bringing about a substantial reduction in the amount of unemployment observed at a given rate of inflation. Programs for streamlining the operation of the labor market might induce a small shift in the Phillips curve of perhaps 0.2 percentage point in the unemployment rate. An expanded federal policy directed particularly at teenagers might bring about another shift of about the same magnitude. Beyond this, programs for training or for subsidized employment do not seem capable of inducing a perceptible shift in the Phillips curve.

This paper and that by Holt and associates that follows were discussed together. The discussion begins on page 723 below.